			1. CONTRACT I	D CODE PAGE OF PAGES
AMENDMENT OF SOLICITATION/I	MODIFICATION	OF CONTRACT		1 of 2
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCH		5. PROJECT NO. (If applicable)
1	6-May-2002			
6. ISSUED BY CODE		7. ADMINISTERED BY	(If other than item 6)	CODE
US Army Corps of Engineers, Kans 760 Federal Building, 601 East Kansas City, Missouri 6410	12th Street			
8. NAME AND ADDRESS OF CONTRACTOR	(No., street, county, State a	nd ZIP Code)	(x) 9a. AMENDMENT (	OF SOLICITATION NO.
			X DACA41-02-R	
			9B. DATED	(SEE ITEM 11)
			4/19/2002	(SEE ITEM TT)
				NA OF CONTRACT/ORDER NO
			TUA. MODIFICATIO	ON OF CONTRACT/ORDER NO.
			10B. DATED	(SEE ITEM 13)
CODE FACILITY CODE	ITEM ONLY ADDITION	O AMENDMENTS OF	POLICITATIONIS	
	ITEM ONLY APPLIES T			
The above number solicitation is amended as set fo tended.	orth in Item 14. The hour a	and date specified for rece	eipt of Offers	is extended, X is not ex-
Offers must acknowledge receipt of this amendment prio  (a) By completing Items 8 and 15, and returning	copies of the amendmen cludes a reference to the D FOR THE RECEIPT OI endment you desire to ch	t; (b) By acknowledging re solicitation and amendme F OFFERS PRIOR TO Thange an offer already sub	eceipt of this amendmen ent numbers. FAILURE C HE HOUR AND DATE SI emitted, such change ma	t on each copy of the offer DF YOUR ACKNOWLEDG- PECIFIED MAY RESULT IN y be made by telegram or
12. ACCOUNTING AND AFFROFRIATION DATA	(II required)			
	APPLIES ONLY TO ES THE CONTRAC			,
(X) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: TRACT ORDER NO. IN ITEM 10A.	(Specify authority)	THE CHANGES SET FOR	RTH IN ITEM 14 ARE MAI	DE IN THE CON-
B. THE ABOVE NUMBER CONTRACT/ORDER IS MOD	DIFIED TO REFLECT THE A		ES	(such as changes in paying office,
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED	INTO PURSUANT TO AUT	HORITY OF:		
D. OTHER (Specify type of modification and authority)	ty)			
E. IMPORTANT: Contractor is not,		s document and return		copies to the issuing office.
14. DESCRIPTION OF AMENDMENT/MODIFICATION (	Organized by UCF so, Child Developme Fort Ri	ection headings, including s nt Center, PN 05 ley, Kansas		matter where feasible.)
The Solicitation	n is amended in a	accordance with	the attached pa	ges.
Except as provided herein, all terms and conditions of the	e document referenced in	Item 9A or 10A, as hereto	ofore changed, remains	unchanged and in full force
and effect.  15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE C	OF CONTRACTING OFFIC	CER (Type or print)
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES O	F AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)			ure of Contracting Officer)	
NSN 7540-01-152-8070	30-105			STANDARD FORM 30 (REV.10-83)

NSN 7540-01-152-8070 PREVIOUS EDITION UNUSABLE STANDARD FORM 30 (REV.10-83) Prescribed by GSA FAR (48 CFR) 53.243

The SOLICITATION is amended as follows:

#### 1. SPECIFICATIONS:

a. <u>Revised Pages:</u> The following pages are deleted and replaced with revised pages of the same numbers.

01015-6 01355-9 01355-10

b. Revised Sections: The following sections are deleted and replaced with revised pages of the same numbers.

Contract Documents, Pages 1 thru 70 of 70

01013

01019

01332

11000

13000

15000

10000

c. <u>Deleted Sections:</u> The following sections are deleted in their entirety.

02555A

02556A

13080

13930A

13965A

2. DRAWINGS: The following drawings are deleted and replaced with revised drawings of the same numbers.

Sheet A01.01

Sheet A01.02

**Sheet A01.03** 

Sheet A01.04

Sheet A02.01

Sheet A03.01

- 3. Offerors are required to acknowledge receipt of this amendment on the Bidding Form, in the space provided, or by separate letter or telegram prior to opening of bids. Failure to acknowledge all amendments may cause rejection of the proposal.
- 4. Proposals will be received until 4:30 p.m., local time, 21 May 2002, in Room 760 Federal Building, 601 E. 12<sup>th</sup> Street, Kansas City, Missouri 64106-2896.

DEPARTMENT OF THE ARMY Kansas City District, Corps of Engineers 757 Federal Building Kansas City, Missouri 64106

# SPECIFICATIONS FOR CONSTRUCTION OF CHILD DEVELOPMENT CENTER PN 053135 FORT RILEY, KANSAS

# **TABLE OF CONTENTS**

#### **COVER**

# BIDDING REQUIREMENTS, CONTRACT FORMS AND CONTRACT CONDITIONS

Section 00010	Solicitation, Offer and Award - SF-1442 and Bidding Schedule
Section 00100	Instructions, Conditions and Notices to Bidder
Section 00110	Submission Requirements and Instructions
Section 00120	Proposal Evaluation and Contract Award
Section 00600	Representations and Certifications
Section 00700	Contract Clauses
Section 00800	Special Clauses
Section 00810	Wage Rates

# **DIVISION 1 - GENERAL REQUIREMENTS**

Section No.	<u>Title</u>
01010	Statement of Work
01011	Geotechnical
01012	Site Work/Civil/Utilities
01013	Architectural Building Requirements
01014	Interior Design Requirements
01015	Structural Requirements
01016	Mechanical Requirements
01017	Electrical Requirements
01018	Fire Protection Requirements
01019	35 Percent Design Requirements
01020	60 Percent Design Requirements
01021	100 Percent Design Requirements
01100	General
01290	KCD Structural Design Guidance Controlling Criteria
01312	Quality Control System
01320A	Project Schedule

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(Continued)

# **DIVISION 1 – GENERAL REQUIREMENTS (Continued)**

Section No.	<u>Title</u>
01331	Submittal Procedures for Design After Award
01332	Submittal Procedures for Construction (Design-Build)
01355	Environmental Protection
01356A	Storm Water Pollution Prevention Measures
01415	Metric Measurement
01451	Contractor Quality Control
01500	Temporary Construction Facilities
01670	Recycled/Recovered Materials
01780	Closeout Submittals

# **DIVISIONS 2 THRU 16 - TECHNICAL REQUIREMENTS**

# **DIVISION 2 - SITE WORK**

02000: Outline Specifications

Government-Edited Guide Specifications:

02791	Playground Protective Surfacing
02882	Playground Equipment

# **DIVISION 3 - CONCRETE**

03000: Outline Specifications

**DIVISION 4 - MASONRY** 

04000: Outline Specifications

**DIVISION 5 - METALS** 

05000: Outline Specifications

#### **TABLE OF CONTENTS**

(Continued)

#### **DIVISIONS 2 THRU 16 - TECHNICAL REQUIREMENTS**

#### **DIVISION 6 - WOOD AND PLASTICS**

06000: Outline Specifications

Government-Edited Guide Specifications:

06410a Laminate Clad Architectural Casework

**DIVISION 7 - THERMAL & MOISTURE PROTECTION** 

07000: Outline Specifications

**DIVISION 8 - DOORS & WINDOWS** 

08000: Outline Specifications

**DIVISION 9 - FINISHES** 

09000: Outline Specifications

Government-Edited Guide Specifications:

09310A Ceramic Tile 09520 Acoustical Panels

09620A Resilient Athletic Flooring

09670 Seamless Resinous Floor System

09920 Contractor Color Boards

**DIVISION 10 - SPECIALTIES** 

10000: Outline Specifications

Government-Edited Guide Specifications:

10500 Lockers

# **TABLE OF CONTENTS**

(Continued)

#### **DIVISIONS 2 THRU 16 - TECHNICAL REQUIREMENTS**

**DIVISION 11 - EQUIPMENT** 

11000: Outline Specifications

Government-Edited Guide Specifications:

11480 Athletic Wall Padding

**DIVISION 12 - FURNISHINGS** 

12000: Outline Specifications

Government-Edited Guide Specifications:

12690 Entrance Mats

**DIVISION 13 - SPECIAL CONSTRUCTION** 

13000: Outline Specifications

Government-Edited Guide Specifications:

# **DIVISION 14 - CONVEYING SYSTEMS (Not Applicable)**

**DIVISION 15 - MECHANICAL** 

15000: Outline Specifications

Government-Edited Guide Specifications:

15971 Direct Digital HVAC Control Systems

**DIVISION 16 - ELECTRICAL** 

16000: Outline Specifications

# **APPENDICES**

APPENDIX A: Subsurface Investigation Report

					DACA41	I-02-R-00	05-0001
		1. SOLICITATION NO.	2. TYPE OF SOLICITAT	TION	3. DATE ISSUED	PAGE OF	PAGES
	SOLICITATION, OFFER,						
	AND AWARD		SEALED BID	(IFB)			
	(Construction, Alteration, or Repair)	DACA41-02-R-0005	X NEGOTIATED	(RFP)	4/19/2002	1	70
	ORTANT - The "offer" section on the reverse must	1		0 000 150	TNO		
4.		5. REQUISITION/PURC	HASE REQUEST NO.	6. PROJEC	I NO.		
7.	ISSUED BY CODE	8.	ADDRESS OFFER TO	<u>,                                      </u>			
	U.S. Army Engineer District, Kansas City  See Item 7						
	U.S. Army Engineer District, Kansas City  760 Federal Building, 601 E. 12th Street						
	Kansas City, Missouri 64106-2896						
	Tel: (816) 983-3845 Fax: (816) 426-5169						
9.	FOR INFORMATION A. NAME		B. TELEPHONE NO.	(Include area cod	de)		
		V. Smith	816-983-3846	Ext.	,	(NO COLL	ECT CALLS)
		SOLIC	CITATION				
	E: In sealed bid solicitation "offer" and "offeror" me						
10.	THE GOVERNMENT REQUIRES PERFORMANCE OF	THE WORK DESCRIBED	IN THESE DOCUMENTS	5	(Title, identifying no.,	date):	
		Child Developmer	nt Center, PN 053	135			
		Fort Ril	ey, Kansas				
	Description of Work: This will be	a firm_fixed-price	design-build con	struction cont	ract to design a	nd build	
	a Child Development Center (CDC						
	Yout	h Activity Center (\	AC) at Fort Riley	, Ќansas.	•	J	
11.	The Contractor shall begin performance within	10 calendar da	ays and complete it wi	thin	calendar days afte	er receiving	
	award X notice to proceed. This perform	mance period is X	mandatory,	negotiable.			)
12A.	THE CONTRACTOR MUST FURNISH ANY REC	UIRED PERFORMAN	CE AND PAYMENT B	ONDS?	12B. CALENDAR DA	AYS	
	(If "YES", indicate within how many calendar days after a	ward in Item 12B.)					
	X YES NO				10		
13.	ADDITIONAL SOLICITATION REQUIREMENTS:				10		
		orform the work require	ad are due at the place	a anacified in Itam	0 by	4:20 D M	
A.		erform the work require a sealed bid solicitation				_ <i>4:30 P.M.</i> olpes	
	containing offers shall be marked to show the offer		•			•	
B.	An offer guarantee X is, is not re	quired.	NOT TO EXCEE	ED 20%	OF TOTAL BID AI	MOUNT	
C.	All offers are subject to the (1) work requirements	and (2) other provision	ns and clauses incorp	orated in the solid	citation in full text or	r bv	
٥.	reference.	, a (2) outor provisio	and olddood moorp		onation in fair toxt of	· ~;	
D.		ays for Government acc	ceptance after the date	e offers are due v	vill not be considere	ed and	
	will be rejected.						
NSN	7540-01-155-3212		1442 102		STANDARD FORM	I 1442	(REV. 4-85)

Prescribed by GSA FAR (48 CFR) 53.236-1(d)

DACA41	-02-R-0005-0001	OFFER	(Must be fully comp	oleted by offeror)					
14. NAME AND	ADDRESS OF OFFE		de ZIP Code)	15. TELEPHO	ONE NO.	(Include are	a code)		
				(FAX #		)			
				16. REMITTANO	E ADDRES	is	(Include only if dif	ferent from Ite	em 14)
DUNS NO:									
CODE	FACILITY		-i:::	4-:-4	.:41- 41 4	-f 4l-ili-i4-4	i if the -ffi-		
_	rees to perform the work ment in writing within						ion, if this offer is a o or greater than th		
•	ed in Item 13D. Failure		lar days after the date				or greater triair tri	e minimum re	<del>!-</del>
quiromoni diai	od III Nom 105. Tanaro	to moore any num	isor mound the energy	accepte the minimal	ir iir itoiii 10D	•			
AMOUNTS:	See attached Propos	al Schedule.							
18 The offeror a	grees to furnish any	required perform	nance and payment	honds					
10. 1110 0110101 0	igreed to runner any t		9. ACKNOWLEDG		NDMENTS				
	(The offero		receipt of amendm			umber and d	ate of each)		
AMENDMENT N	O.								
DATE									
	D TITLE OF PERSON	N AUTHORIZEI	O TO SIGN OFFER		20B. SIGN	ATURE		20C. OFFI	ER DATE
(Type or print)									
(1) po o. p			AWARI	(To be complete	ed by Gover	nment)			
21. ITEMS ACC	EPTED				-	·			
22. AMOUNT			23. ACCOUNTING	AND APPROPRI	IATION DAT	ГА			
24 CLIDMIT INI	OICES TO ADDRES		ITEM	25 OTHER	TUAN EU	I AND ODEN	N COMPETITION	I DI IDCI IAN	UT TO
	es unless otherwise spec		I I LIVI	l <u> —                                   </u>		L AND OF LI	_		<b>VI 10</b>
26. ADMINISTE	RED BY	CODE		10 U.S.C. 2		)	41 U.S.C. 2	:53(c) (	)
				27. PAYMENT W	ILL BE MAI	DE BY			
	C	ONTRACTING	OFFICER WILL CO	OMPLETE ITEM 2	8 OR 29 AS	S APPLICABI	E.		
28. NEGOT	IATED AGREEMENT	(Contractor is	required to sign this	29. AWARD	(Contractor is	s not required	to sign this docum	ent)	Your offer
document and ret	urn copies to i	issuing office.)	Contractor agrees	on this solicitation is	hereby acce	pted as to the	tems listed. This a	award con-	
	er all items or perform a			summates the contr		. ,			
	y continuation sheets fo			your offer, and (b) the	nis contract a	ward. No furth	er contractual docu	ument is	
_	s and obligations of the page			necessary.					
• • • • • • • • • • • • • • • • • • • •	rtifications, and specifications								
in or attached to thi	•	·	,						
30A. NAME AND	30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED 31A. NAME OF CONTRATING OFFICER (Type or print)								
TO SIGN	(Type of print)								
30B. SIGNATURE				31b. UNITED STA	TED OF AME	RICA		31C. A	
								DA	TE

STANDARD FORM 1442 BACK (REV. 4-85)

					Page 3 of 70
SECTION 0	0010 Solicitation Contract Fo	orm			
ITEM NO 0001	SUPPLIES/SERVICES  DESIGN FFP - Design effort for Chi PURCHASE REQUEST N			UNIT PRICE	AMOUNT
				NET AMT	
ITEM NO 0002	SUPPLIES/SERVICES  CONSTRUCT CDC BLDC FFP - The lump sum amour associated site work, excep	nt includes consti			AMOUNT
				NET AMT	
ITEM NO 0003	AS-BUILTS, O & M MAN FFP - As-Built Drawings, O value of these services has	O & M Manuals,	and required Use		AMOUNT

TOTAL – BASE CONTRACT

NET AMT

ITEM NO SUPPLIES/SERVICES **OUANTITY UNIT UNIT PRICE AMOUNT** 0004 1.00 Lump Sum OPTION - COURTYARD AND CANOPY FFP - Courtyard architectural paving and canopy between the YAC and the New Child Development Center. The lump sum amount includes all design and construction, including additive and deductive changes to the design, necessary to incorporate this option into the contract. **NET AMT** ITEM NO SUPPLIES/SERVICES **QUANTITY** UNIT **UNIT PRICE AMOUNT** 0005 Lump Sum 1.00 **OPTION - COMMUNICATION DUCT BANK** FFP - This Option includes installing the communications cabling in handholes and conduit, as indicated by keynotes 9 and 10 of sheet C 10.1. The lump sum amount includes all design and construction, including additive and deductive

changes to the base design, necessary to incorporate this option into the

contract.

**NET AMT** 

AMOUNT

UNIT PRICE

Page 5 of 70

0006	FFP - This option in fenced area, as desc amount includes all	CAPING OUTSIDE FENCE cludes the landscaping associated in Section 01012, paradesign and construction, inc.		e
			NET AMT	
ITEM N 0007	OPTION - COMPO FFP - COMPOSITE PLAYGROUND PF includes all design a	1.00 Lu SITE PLAY STRUCTURE PLAY STRUCTURE AND ROTECTIVE SURFACING:	ASSOCIATED  The lump sum amount dditive and deductive change	
	TOTAL – OPTIO	NS	NEI AMI	
	TOTAL – BASE (	CONTRACT PLUS OPTIC	ONS	
DELIVI	ERY INFORMATION			
CLINS 0001	DELIVERY DATE	UNIT OF ISSUE QUA Lump Sum 1.00		DDRESS
INSPEC	CTION AND ACCEPTAN	ICE TERMS		
Supplies	s/services will be inspected	d/accepted at:		
CLIN 0001	INSPECT AT N/A	INSPECT BY N/A	ACCEPT AT N/A	ACCEPT BY N/A

QUANTITY

UNIT

ITEM NO SUPPLIES/SERVICES

#### CLAUSES INCORPORATED BY FULL TEXT

#### FIELD OFFICE OVERHEAD

NOTICE TO BIDDERS: For your bid to be responsive, you must declare below the <u>single</u> accounting practice that you apply to contracts to calculate field office overhead for all change orders, modifications and requests for equitable adjustment. Pursuant to Federal Acquisition Regulations (FAR) Parts 31.105(d)(3) and 31.203(d)(1), an accounting practice that varies from modification to modification is not allowable. Select one of the following:

1. T	IME DISTRIBUTION BASE FOR A PER DIEM RATE  If you use this practice, see Special Clause "Field Office  Overhead Per Diem Rate"	
2. Г	IRECT COST DISTRUBITION BASE FOR A PERCENTAGE MARKUP If you use this practice, see Special Clause "Field Office Overhead Percentage Markup"	
	THER ACCOUNTING PRACTICE THAT IS ALLOWABLE DER THE FAR AND THAT USES A <u>SINGLE</u> DISTRIBUTION BASE.	
THE	J MUST DESCRIBE THE ACCOUNTING PRACTICE IN SUFFICIENT DETAIL BELOW CONTRACTING OFFICER TO DETERMINE WHAT ACCOUNTING PRACTICE IS BEI YOUR COMPANY AND THAT IT COMPLIES WITH THE FAR.	

FAILURE TO FULLY COMPLY WITH THE ABOVE REQUIREMENT OR, IF ALTERNATIVE 3 IS DECLARED AND YOUR DESCRIPTION DOES NOT CLEARLY STATE OR DESCRIBE A CONSISTENT ACCOUNTING PRACTICE USING A SINGLE DISTRIBUTION BASE, WILL BE CAUSE FOR YOUR BID TO BE REJECTED AS NON-RESPONSIVE.

#### NOTES:

- (1) Proposal prices must be entered for all items of the Proposal Schedule. Award will be made as a whole to one Contractor on the basis of price and other factors. Offeror's attention is directed to SECTION 00120 PROPOSAL EVALUATION AND CONTRACT AWARD for further details.
- (2) If a modification to an offer is submitted which provides for a lump sum adjustment to the total cost, the application of the lump sum adjustment to each price in the Proposal Schedule must be stated. If it is not stated, the offeror agrees that the lump sum adjustment shall be applied on a pro rata basis to every price in the Proposal Schedule.
- (3) Offeror's attention is directed to SECTION 00100 paragraph titled "Arithmetic Discrepancies" wherein are procedures for correction of errors.
- (4) Offeror's attention is directed to SECTION 01100: GENERAL for special provisions pertaining to this Solicitation.
- (5) Offeror's attention is directed to SECTION 01100, paragraph titled "Kansas Sales and Use Tax".
- (6) The general outline of the principal features of each item as listed does not in any way limit the responsibility of the offeror for making a thorough investigation of the drawings and specifications to determine the scope of work included in each item.
- (7) Offeror's attention is directed to the CONTRACT CLAUSES wherein the apparent successful offeror is required to submit a small business and small disadvantaged business -subcontracting plan. The subcontracting plan shall be submitted in the format that appears at the end of SECTION 00600. Submission of the plan is required prior to award. Award will not be made under this solicitation before the Contracting Officer approves the plan.
- (8) Determination of the Offeror's total price for the proposed work will be based on the TOTAL of the BASE SCHEDULE and OPTION SCHEDULE. Immediate award will be made of the BASE SCHEDULE. At the option of the Government, the OPTION SCHEDULE may be awarded at the proposal price after Notice of Award for the BASE SCHEDULE work. The Government does not guarantee any work beyond that of the BASE SCHEDULE. The Government reserves the right to pick up the OPTION SCHEDULE at the proposal price within 120 calendar days, after the Notice to Proceed. Offeror's attention is directed to SECTION 00100, paragraph titled "Evaluation of Options", for further details.
- (9) Offeror's attention is directed to the CONTRACT CLAUSES, FAR 52.223-9, Certification and Estimate of Percentage of Recovered Material Content for EPA-Designated Items. Certification will be required upon contract completion unless the Contracting Officer has approved a waiver. The waiver must be approved prior to contract award.
- (10) The Government will procure this facility through a Best value competitive acquisition in accordance with the provisions set forth in the Request for Proposal (RFP).

#### POINTS-OF-CONTACT

CONTRACT Earl V. Smith 816-983-3846 Earl.V.Smith@usace.army.mil

SPECIALIST:

PROJECT Clifton J. Rope 816-983-3476 <u>Clifton.J.Rope@usace.army.mil</u>

MANAGER:

# **CAUTION!**

BEFORE SIGNING AND MAILING THIS PROPOSAL, please take note of the following, as failure to perform any one of these actions may cause your offer to be rejected.

- 1. AMENDMENTS: Have you acknowledged receipt of ALL Amendments? If in doubt as to number of amendments issued, please contact our office.
- 2. SEALED PROPOSALS: Sealed envelopes containing proposals shall be marked to show the offeror's name and address, the solicitation number, amendments received, and the date and time proposals are due.
- 3. AMENDED PROPOSAL PAGES: If any of the Amendments furnished amended proposal pages, the amended proposal pages must be used in submitting your proposal.
- 4. LATE PROPOSALS: In order for a late mailed proposal to be considered, generally it must have been sent by either registered or certified mail not later than 5 calendar days before the receipt of proposals date.
- 5. PROPOSAL GUARANTEE: Sufficient proposal guarantee in proper form must be furnished with your proposal, if your proposal exceeds \$50,000.
- 6. MISTAKE IN PROPOSAL: Have you reviewed your proposal prices for possible errors in calculations or work left out?
- 7. TELEGRAPHIC MODIFICATIONS: If you modify your proposal by telegram, be sure to allow sufficient time for the telegram to reach us prior to the time set for receipt of proposals. Any doubt should be resolved in favor of allowing Extra Time.
- 8. FACSIMILE PROPOSALS, MODIFICATIONS, OR WITHDRAWALS: Will not be considered.
- 9. SECTION 00600: Certifications must be completed and submitted with your proposal. Small Business and Small Disadvantaged Business Subcontracting Plan, found at the end of Section 00600, must be submitted prior to award.
- 10. HAND-DELIVERED PROPOSAL: If proposals are hand-delivered, you must be aware of security requirements in effect in the Federal Building. No additional time will be allowed due to security requirements.
- 11. BUY AMERICAN ACT: All offerors are cautioned that, prior Government conduct notwithstanding, the Contractor's selection of a domestic construction material (as defined in SECTION 00700) which would require the subsequent selection of a foreign construction material for compatibility is not a justification for waiver of the Buy American Act. It is the Contractor's responsibility to verify, prior to submitting the materials for approval, that each system can be built to meet the contract specifications without the use of foreign construction materials.

#### PLANS AND SPECIFICATIONS

This Request For Proposal (RFP) will be available only on CD-ROM, and will be free of charge. A street address must be provided when requesting a CD-ROM. Requests for the CD-ROM must be made via the Internet at http://www.nwk.usace.army.mil/contract/contract.html.

THE MAGNITUDE OF THIS PROJECT IS REPRESENTED BY THE FOLLOWING ESTIMATED PRICE RANGE (See FAR 36.204): **Between \$5,000,000.00 and \$10,000,000.00**.

# SECTION 00100 Bidding Schedule/Instructions to Bidders

#### CLAUSES INCORPORATED BY REFERENCE:

52.204-6	Data Universal Numbering System (DUNS) Number	JUN 1999
52.211-2	Availability of Specifications Listed in the DoD Index of	DEC 1999
	Specifications and Standards (DODISS) and Descriptions Listed in	
	the Acquisition Management Systems and Data Requirements	
	Control List, DOD 5010.12-L	
52.215-20	Requirements for Cost or Pricing Data or Information Other Than	OCT 1997
	Cost or Pricing Data	

#### CLAUSES INCORPORATED BY FULL TEXT

#### **COST LIMITATION – TARGET CEILING (JUNE 1999)**

The target ceiling for contract award for design and construction is \$6,000,000.00 based on the funds made available for this project. The Government cannot guarantee that additional funds will be made available for award. Offerors are under no obligation to approach this ceiling.

52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (MAY 2001)

(a) Definitions. As used in this provision--

"Discussions" are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

In writing, writing, or written means any worded or numbered expression that can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

"Proposal modification" is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

"Proposal revision" is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

"Time", if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

- (b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).
- (c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

- (2) The first page of the proposal must show--
- (i) The solicitation number;
- (ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);
- (iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item:
- (iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and
- (v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.
- (3) Submission, modification, or revision, of proposals.
- (i) Offerors are responsible for submitting proposals, and any modifications, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.
- (ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and-
- (1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or
- (2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or
- (3) It is the only proposal received.
- (B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.
- (iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.
- (iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.
- (v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative,

if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

- (4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.
- (5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.
- (6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.
- (7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.
- (8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.
- (d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).
- (e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--
- (1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and
- (2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.
- (f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.
- (2) The Government may reject any or all proposals if such action is in the Government's interest.
- (3) The Government may waive informalities and minor irregularities in proposals received.
- (4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.
- (5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

- (6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.
- (7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.
- (8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.
- (9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.
- (10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.
- (11) The Government may disclose the following information in postaward debriefings to other offerors:
- (i) The overall evaluated cost or price and technical rating of the successful offeror;
- (ii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection;
- (iii) A summary of the rationale for award; and
- (iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(End of provision)

#### 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a single firm-fixed price contract resulting from this solicitation.

(End of clause)

#### 52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of Provision)

#### 52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

#### 52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Charlene A. Points USAED Kansas City 760 Federal Building 601 E 12th Street Kansas City, MO 64106-2896

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

- 52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) ALTERNATE I (FEB 1995)
- (a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.
- (b) An organized site visit has been scheduled for--

7 May 2002

(c) Participants will meet at--

Building 337, upstairs classroom at 10:00 AM. Building 337 is located on the Main Post next to the Main Public Works Directorate Building.

- (d) Offerors are advised that enhanced security measures are in effect at the installation, allow extra time to clear security checkpoints. Visitors must present vehicle registration and proof of insurance as well as a valid government issued photo ID (driver's license, passport, etc.).
- (e) Point of contact at Fort Riley is Mr. Alan Gerth, e-mail alan.v.gerth@usace.army.mil
- 52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)
- (a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.
- (b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--
- (1) Lump sum price;
- (2) Alternate prices;
- (3) Units of construction; or
- (4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.
- (c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words "no proposal" in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

# 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

http://www.arnet.gov/far/

http://web2.deskbook.osd.mil/default.asp

http://web2.deskbook.osd.mil/default.asp

http://acqnet.saalt.army.mil/library/AFAR/AFARS OCTOBER 2001.pdf

http://www.hq.usace.army.mil/cepr/asp/library/efar.asp?strCat=7&strSubCat=7

# 252.209-7003 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (MAR 1998)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 37 U.S.C. 4212(d) (i.e., the VETS-100 report required by Federal Acquisition Regulation clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era), it has submitted the most recent report required by 38 U.S.C. 4212(d).

BID BOND REQUIREMENTS (DEC 1989) (FAR 28.101-2): If your bid exceed \$50,000.00, the bid bond shall be in the amount of 20% of the bid price of \$3,000,000, whichever is the lesser amount. (See CONTRACT CLAUSE titled "Bid Guarantee."

#### SECTION 00110

# SUBMISSION REQUIREMENTS AND INSTRUCTIONS

#### 1. PROPOSAL SUBMITTAL

Proposals for the work described herein, will be received until the date and time indicated on Standard Form 1442 in Section 00010, at the following address:

U.S. Army Engineer District, Kansas City 757 Federal Building 601 East 12th Street ATTN: CENWK-CT-C/Mr. Earl Smith Kansas City, Missouri 64106-2896

#### 2. PROPOSAL FORMAT

a. The Technical Proposal (Volume 1) shall be no more than thirty (30) pages long, excluding Specific Personnel Resumes and Design and Construction Experience forms. Past Performance Evaluation Forms will be submitted by Offeror references and are not included in the page limitation. Proposals shall be submitted in accordance with format instructions described below.

	Originals	Copies
VOLUME 1 - Technical Proposal	1	4
VOLUME 2 - Price Proposal	1	2

- b. All text must be legible and easily read and printed on standard 8-1/2" x 11" paper. If fold-out charts are unavoidable, 11" x 17" paper shall be used, and folded to 8-1/2 inch by 11 inch sheet size with title visible at bottom right corner. 11" x 17" sheets will count as 2 pages. All text shall be single-space type, minimum 11 point font size, with 1-inch margins.
- c. Volume 1 shall be contained within a 3-ring binder. Volume 1 should contain a Table of Contents, List of Tables, List of Figures, List of Appendices, List of Acronyms: These will not count toward the page limitation. Section dividers will not count toward the page limitations. Page numbers, volume number and Offeror name shall be included in the header or footer on each page. Each evaluation factor and subfactor shall be described in a separate and tabbed section of Volume 1. Resumes of key individuals and the Design and Construction Experience forms shall be included in separate Volume 1 appendixes. Elaborate presentations, expensive illustrations, reproduction techniques, report bindings, etc. are not necessary or desired.
- d. Volume 2 should be provided in a separate sealed envelope. Volume 2 need not be submitted in a 3-ring binders and may be stapled. Volume 2 shall include the completed SF1442, a completed bid schedule and Section 00600 Certifications and Representations (See paragraph 4). Offerors may be required to provide complete cost and pricing data and certification or information other than cost or pricing data at a later date if needed to adequately evaluate price proposals.
- e. Proposals will become property of the Government and will not be returned. After selection and contract award, if any, proposals will be disposed of as follows: all originals and any copies of other than the successful proposal will be destroyed. Destruction certification will not be furnished.

#### 3. PROPOSAL CONTENT

- a. The Government intends to award one contract based on initial proposals received, without discussions, to the offeror whose Proposal provides the Best Value to the government as determined using the Evaluation Factors and subfactors described below. The Government may request additional information from Offerors, which clarifies, supplements and/or changes, any proposal as submitted.
- b. Each offeror's ability to perform the work set forth in this solicitation will be evaluated and rated on the basis of the information provided in the proposal. The evaluation will be based solely on the information included in the proposals. Knowledge of the RFP requirements is a prerequisite to preparing proposals, however, restatement of the RFP requirements shall be avoided: Offerors should read and understand the information being requested in this paragraph, and emphasize knowledge and understanding of work performance, not work identification.
  - c. The following factors and subfactors will be used to evaluate each proposal.

# FACTOR 1 -- PERFORMANCE CAPABILITY:

- (a) Management Plan: Organization; technical approach; preliminary design and construction schedule; and quality control, subcontracting and management strategies;
- (b) Specific Personnel Experience: Experience of Managers, designers and technical personnel who will be responsible for the day-to-day design and construction activities;
- (c) Offeror Design Experience;
- (d) Offeror Construction experience;

(a) Management Plan: Fully identify and describe your proposed organization in narrative and using organization charts and your technical approach and strategy to manage and execute the design, construction, training and warranty support, and project turnover.

Note that this solicitation requires the Offeror to propose a specific team, including specific design firms, key subcontractors and key individuals, which/whom will be considered during the Proposal evaluation process. Offeror shall identify key personnel to be assigned to the project, to include: principal managers, designers and technical personnel who will be directly responsible for the day-to-day design and construction activities. State which individuals will be the registered designers of record and responsible for the various design disciplines.

Offeror shall describe its Technical Approach, including key work features, architectural compatibility and Interior Design issues important to the subject acquisition, structural design and HVAC considerations, and D-B scheduling considerations which may affect ongoing activities at the Youth Activity Center.

Describe the Home Office organization, responsibilities and lines of authority established for this project.

Describe the onsite design-construct management team and the plan for managing subcontract acquisition, execution and administration.

Explain procedures for coordinating design development between the designer, general (construction) contractor and key subcontractors. Describe your plan and organization for warranty support.

Self-performed work: Identify the percentage of self-performed work (See FAR 52.236-1), describe which parts of the project will be self-performed by in-house forces and provide the calculation used to derive the percentage of self-performed work.

Quality control strategy: Discuss authorities and functions of the Q.C. Manager and all Q.C. positions; minimum required qualifications for each position in the Q.C. Organization; basic Q.C. procedures, including the reviews and inspections during the various phases of design and construction; and systems to track corrective actions; and procedures for the resolution of government review comments. (Please note that the DrChecks internet based comment system will be used on this project.)

Preliminary schedule: Provide a graphical preliminary schedule for design and construction, which identifies the major design and construction milestones. The purpose of the schedule is to demonstrate the offeror's understanding of the design build process, the management strategy and project requirements. The preliminary schedule will be replaced with a final schedule following contract award.

Identify the scheduling software to be used and describe how schedules will be maintained, update and utilized.

(b) Specific Personnel Experience: Using the format provided for the *Specific Personnel Resumes* at the end of this section, Offeror shall provide the information listed, including a description of experience relevant to the subject acquisition. For key individual design personnel, experience shall be within the past 3 years from the RFP issue date. For key individual construction personnel, experience shall be within the past 5 years from the RFP issue date. These are key individuals, in accordance with contract clause "Key Personnel, Subcontractors and Outside Associates or Consultants" (See Section 00800).

<u>Designer Personnel</u>: As a minimum, include Specific Personnel Resumes for the following key individuals, if applicable to this project: Design Project Manager; Project Architect; Project Interior Designer; other specialized design engineers and consultants relevant to this acquisition; all lead engineers responsible for engineering design and the Design Quality Manager.

<u>Construction Personnel</u>: As a minimum include Specific Personnel Resumes for the following key individuals, if applicable to this project: Prime Contractor (or Joint Venture) Program Manager; the Construction Project Manager; Onsite Supervisor with overall site responsibility; and Quality Control Manager.

(c) and (d) Offeror Experience: Provide a list of example projects and in an appendix, provide the completed *Design and Construction Experience Forms* for each example project. Offeror will utilize the *Design and Construction Experience Form* at the end of this section and provided as an MS Word file on the compact disk (CD). Every *Design and Construction Experience Form* will include a concise explanation of the project scope, relevance to the subject acquisition and the Offeror's (or key subcontractor's) role in the project (prime, subcontractor or joint venture partner). All information on the Design and Construction Experience Form shall be provided, including points of contact (names, current employer and current telephone numbers).

A project of *Similar* type, size and complexity is considered to be a Child Development Center (CDC) for school-age children (age range generally 6-10 years old), sized to accommodate at least 100 or more children or a Youth Activity Center, located at a U.S. Army installation. *Closely related* facilities of similar size and complexity include Child Development Centers for 100 or more children and Youth Activity Centers located at U.S. Military installations, grade schools and middle schools, and other institutional facilities built to accommodate children in the 6-10 year old age group.

<u>Prime (or Construction) Contractor(s)</u>: Provide a minimum of five (5) and a maximum of seven (7) examples of similar and closely related projects completed within the past five (5) years or which are currently under contract and more than 50% complete.

A-Es and /or Key Design Subcontractor(s): Provide a minimum of five (5) and a maximum of ten (10) examples (total number of examples) of similar and closely related projects completed within the past three (3) years or which are currently under contract and more than 50% complete.

Offerors may submit example projects that are not similar and closely related to the subject acquisition; however, the evaluators will consider relevancy of the example projects when developing ratings for this subfactor.

It is not mandatory that Offerors possess Design Build experience to be awarded a contract; however, the evaluators will consider Design-Build project experience important and relevant when developing ratings for this subfactor.

Identify the subcontracting goals (if any) and the actual percentages of subcontracted dollars that were awarded and performed by small businesses, small disadvantaged businesses, and women owned small businesses. The percentage for small businesses should include all small businesses, including disadvantaged and women owned businesses. SF 294s, where available shall be attached to the Design and Construction Experience Forms.

Offeror shall provide the following information in the *Design and Construction Experience Form* or as an attachment:

- (a) SF 294s, where available. If the project was done for a non-federal organization, information normally provided on a SF 294 will be provided.
- (b) Brief description of the circumstances surrounding the following as they apply and any corrective action taken to preclude recurrence:
  - (i) Contract termination, in whole or in part.
  - (ii) Failure to complete awarded work.
  - (iii) Liquidated damages or actual damages assessed for delay in meeting completion dates.

#### FACTOR 2 -- PAST PERFORMANCE:

Offerors shall utilize the *Past Performance Evaluation forms* (also referred to as Past Performance Questionnaires) at the end of this section and provided as an MS Word file on the solicitation Compact Disk. Offerors should utilize the *Recommended Past Performance Evaluation Transmittal Letter* included at the end of this section and provided as an MS Word File on the CD. The following subfactors will be evaluated

# 2a. Past Performance: Design

- 2.a.1 Customer satisfaction
- 2.a.2 Quality, Function and Service
- 2.a.3 Timeliness of performance

#### 2.b. Past Performance: Construction

- 2.b.1 Customer satisfaction
- 2.b.2 Quality, Function and Service
- 2.b.3 Timeliness of performance

Ratings for the Past Performance subfactors will be developed using information provided by references listed on the *Design and Construction Experience Forms* and information from other sources.

The Government reserves the right to utilize past performance information from sources other than those identified by the offeror, including, but not limited to past performance evaluations in the A-E Contract Administration Support System (ACASS) and Construction Contractors Appraisal Support System (CCASS). Offerors shall fill out portions of the *Past Performance Evaluation Forms*, as indicated, and transmit the forms to the references, along with a copy of the *Design and Construction Experience Form* for that project.

Past Performance Evaluations must be provided by the offeror to persons who have knowledge of this information on past performance. Once completed, these evaluations must be sent directly to the address in paragraph: PROPOSAL SUBMITTAL, above, by the persons completing these evaluations. Offeror may also e-mail the questionnaires to the references, who may then electronically complete the questionnaire and e-mail it to Mr. Earl V. Smith, <a href="mailto:Earl.V.Smith@usace.army.mil">Earl.V.Smith@usace.army.mil</a>.

Offerors are responsible for ensuring that references have completed and mailed or faxed legible Past Performance Evaluation Forms to the government. Completed Past Performance Evaluation Forms must be received by the Contracting Officer not later than the Proposal due date in order to be considered.

#### FACTOR 3 -- PRICE.

Offerors shall submit the Price Proposal (Section 00010), in Volume 2.

- 4. VOLUME 2 PRICE PROPOSAL, REPRESENTATIONS AND CERTIFICATIONS, AND SF 1442
  - a. The Price Proposal shall be organized as follows:
    - Cover Sheet
    - Tab A Preliminary Design and Construction Schedule (Same as in Volume 1)
    - Tab B Certification
    - Tab C Price Proposal
- b. The Price Proposal will be evaluated in accordance with Source Selection procedures described in Section 00120 (PROPOSAL EVALUATION AND CONTRACT AWARD).
- c. Offeror shall check or complete all applicable boxes or blocks of the solicitation document and resubmit the pages marked "RETURN PAGES" as part of Volume 2.
  - d. Additional information to be included in Volume 2:
    - The Offer (the SF1442) duly executed with an original signature by an official authorized to bind the company.
    - Acknowledgement of all amendments to the solicitation in accordance with the instructions on the Standard Form 30 (amendment form).
    - The completed Section 00600 of the solicitation (Representations and Certifications).

- Joint Ventures information (see below), if applicable.
- e. Joint Ventures: In addition to organization and management strategy information provided for Factor 1, Joint Ventures shall submit the following additional documentation regarding their business entities:
  - A certified copy of their Joint Venture agreement.
  - A detailed statement outlining the following in terms of percentages, where appropriate.
    - The relationship of the joint venture parties in terms of business ownership, capital contribution, and profit distribution or loss sharing.
    - The bonding responsibilities of the joint venture parties.
  - Identification of the key personnel having authority to legally bind the joint venture to subcontracts and state who will provide or contract for the labor and materials for the joint venture.
  - Identification of party maintaining the joint venture bank accounts for the payment of all expenses and the deposits of all receipts, keep the books and records, and pay applicable taxes for the joint venture.
  - Identification of party furnishing the facilities, such as office supplies and telephone service.
  - Identification of party having overall control of the joint venture.
  - Whether key personnel are employees of the individual joint venture parties.
  - Please note that if one of the joint venture parties possesses experience and/or past performance as a Federal Government contractor or as a Corps of Engineers contractor, that experience and/or past performance will be included as the experience and/or past performance of the joint venture.

# SPECIFIC PERSONNEL RESUME

Pro	vid	le t	he	inf	forma	tion	the	fol <sup>1</sup>	lowing	kev	ind	ivio	duals	id	entified	l i	n the	- N	Management Plan.

Name and Title:

Assigned Role on Project:

Name of Firm & # years with firm:

Education: Degrees, University and year obtained:

Current Professional Registrations, Registration number and State:

Specific experience and qualifications relevant to this project:

#### RECOMMENDED PAST PERFORMANCE EVALUATION TRANSMITTAL LETTER

	Date:
To:	
Our firm plans to submit a Proposal for a Design-I Corps of Engineers, Kansas City District. (If a subcoolisted as a key subcontractor in a Proposal for a Des Corps of Engineers, Kansas City, District.) In accord (FAR), the Corps of Engineers will evaluate Offeror a listed your firm as a reference for the	ntractor, please use the following: Our firm is being ign-Build project being advertised by the U.S. Army dance with the Federal Acquisition Regulations and key subcontractor past performance. We have
Your responses to the attached Past Performance Eval Engineers evaluation team in the process of selecting the attached <i>Design and Construction Experience For</i> information, please correct it in the margin or in the s Performance Evaluation Questionnaire. When you m Questionnaire to the Corps, it is important that you also	a contractor. The Corps requests that you review rm for accuracy: If you disagree with any of the pace provided for comments at the end of the Past hail or fax the Past Performance Evaluation

Please submit the completed evaluation directly to the Corps of Engineers: **Do not fax or mail a copy to us.** FAR 15.306 (e)(4) prohibits the release of the names of the persons providing the responses. The Corps assures you that complete confidentiality will be maintained by the Government. Kindly complete the questionnaire immediately and fax or mail to the following address:

U.S. Army Engineer District, Kansas City ATTN: CENWK-CT-C/Earl Smith 601 East 12<sup>th</sup> Street Kansas City, Missouri 64016-2896

Fax: 816-426-5777

The Corps will not consider questionnaires received after the proposal due date. If you have questions regarding the attached questionnaire, or require assistance, please contact Mr. Earl Smith at (816) 983-3846. Thank you for your assistance.

Sincerely.....

OFFEROR:	PAGEOF
PAST PERFORMANCE EVALU	ATION - CONSTRUCTION
Please mail directly to the U.S. Army Corps of Engine to 816-426-5777, ATTN: Mr. Earl Smith.	eers in the enclosed addressed envelope or fax
Contractor Name, Address & telephone number: (To	
2. Type of Contract (mark all that apply):  Construction Design Fixed Price Cost Reimbursen	Design Build nent Other (Specify)
<ol> <li>Title of Project, Customer &amp; Contract Number: (To I</li> <li>Description of Work, including that work performed be Construction Experience Form). References please of</li> </ol>	oe filled in by Offeror)  y the Contractor: (See attached "Design and
5. Complexity of Work: High Mid	Routine
6. Location of Work (City and State): (See attached Des	ign and Construction Experience Form)
7. Date of Award: (See attached Design and Construct	tion Experience Form)
8. Project Status: Active (provide	e percent complete) Complete (provide completion date)
9. Name, address, telephone number and fax number of p	person completing this form:

OFFEROR:	PAGE	OF
<b>QUALITY OF PRODUCT/SERVICE:</b>		
10. Evaluate the contractor's performance in complying w	rith contract requirements, q	uality achieved and
overall technical expertise demonstrated.		
Excellent Quality		
Above Average Quality		
Average Quality		
Below Average Quality		
None Of The Above Apply		
Remarks:	· · · · · · · · · · · · · · · · · · ·	
11. To what extent were the contractor's reports and docu	mentation accurate, comple	te and submitted in a
timely manner?		
Excellent Quality		
Above Average Quality		
Average Quality		
Below Average Quality		
None Of The Above Apply		
Remarks:	_	
12. To what extent was the contractor able to solve contra	ct performance problems w	ithout extensive
guidance from government/customer counterparts?		
Excellent Ability		
Above Average Ability		
Average Ability		
Below Average Ability		
None Of The Above Apply		
Remarks:		

CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:    Quality?   Cost?   Schedule?	OFFEROR:	_	PAGE	OF
Excellent Management Above Average Management Below Average Management None Of The Above Apply  Remarks:  CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:  Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below Average Satisfaction Below Average Satisfaction None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?				
Above Average Management  Average Management  Below Average Management  None Of The Above Apply  Remarks:  CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:  Exceptional Level of Satisfaction  Above Average Level of Satisfaction  Average level of Satisfaction  Below Average Satisfaction  Below Average Satisfaction  None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?		coordinate subc	contractors, supp	oliers, and the labo
Average Management Below Average Management None Of The Above Apply  Remarks:  CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:  Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below Average Satisfaction Below Average Satisfaction None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?	<u> </u>			
Below Average Management None Of The Above Apply  Remarks:  CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:    Quality?   Cost?   Schedule?	Above Average Management			
None Of The Above Apply  Remarks:  CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:    Quality?   Cost?   Schedule?				
CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:    Quality?   Cost?   Schedule?	Below Average Management			
CUSTOMER SATISFACTION (PLEASE EXPLAIN RATINGS):  14. To what extent were the end users satisfied with:    Quality?   Cost?   Schedule?	None Of The Above Apply			
14. To what extent were the end users satisfied with:    Quality? Cost? Schedule?	Remarks:			
14. To what extent were the end users satisfied with:    Quality? Cost? Schedule?				
14. To what extent were the end users satisfied with:    Quality? Cost? Schedule?				
14. To what extent were the end users satisfied with:    Quality? Cost? Schedule?				
14. To what extent were the end users satisfied with:    Quality? Cost? Schedule?				
Quality?   Cost?   Schedule?	CUSTOMER SATISFACTION (PLEASE)	<u>EXPLAIN RA</u>	ATINGS):	
Quality?   Cost?   Schedule?	14 T1-444 411	424.		
Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below Average Satisfaction None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?	14. 10 what extent were the end users satisfied		G49	0-1-1-1-0
Above Average Level of Satisfaction Average level of Satisfaction Below Average Satisfaction None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?		Quality?	Cost?	Schedule?
Average level of Satisfaction  Below Average Satisfaction  None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?				
Below Average Satisfaction None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?				
None of the Above Apply  Remarks:  15. If given the opportunity, would you work with this contractor again?				
Remarks:  15. If given the opportunity, would you work with this contractor again?				
15. If given the opportunity, would you work with this contractor again?	None of the Above Apply			
	Remarks:			
			C	

OFFEROR:	PAGEOF
TIMELINESS OF PERFORMANCE:	
16. To what extent did the contractor meet the	-
Completed work substantially ahead of schedule, with time extensions allowed	
Completed work within schedule, with result of contractor's actions, or delay	'S
Completed work, with minor time ext	
Completed work, with major time extended	ensions required.
None of the above apply.	
Remarks:	
you would like the Government to consider. the information in items 1-10 of this questio includes: the Contractor's selection and man disadvantaged business subcontracting plan;	other information related to the contractor's performance that Include any comments on the "Project Example Form", and nnaire. Other information that the Corps appreciates agement of subcontractors, effectiveness of their small/small the Contractor's flexibility in dealing with contract entractor's overall concern for the customer's interests; and

OFFEROR:	PAGE	_OF
PAST PERFORMANCE EVALUA	ATION - DESIG	N
Please mail this questionnaire directly to the Kansas City Districte enclosed pre-addressed envelope or fax to 816-426-5777, A		Engineers in
1. Design Firm/Name & Address (City and State): (To be filled in	by Offeror)	
2. Type of Contract (mark all that apply): (To be filled in by Offe	eror)	
Design (A-E) Design-Build Other (Sp	pecify)	
3. Title of Project/Contract Number: (To be filled in by Offeror)		
4. Description of Work, <u>including that performed by the Offeror</u> : ( Construction Experience Form) References please check for ac		d
5. Location of Work: (See attached Design and Construction Ex	perience Form)	
6. Date of Award: (See attached Design and Construction	Experience Form)	
7. Status: Active (provide percent complete) Complete (provide completion date)		
8. Name, address and telephone number of Contracting Officer's Tolesign and Construction Experience Form.	echnical Representative	: See attached
9. Name, phone number, and job title of person completing qu	estions 10 through 16:	
		_

OFFEROR:	PAGEOF
QUALITY OF PRODUCT/SERVICE:	
10. Evaluate the design firm's performance in complying overall technical expertise demonstrated.	ng with contract requirements, quality achieved and
Excellent Quality	
Above Average Quality	
Average Quality	
Below Average Quality	
None Of The Above Apply	
Remarks:	
11. To what extent were the design firm's documentation specifications, etc.) accurate, complete and submitted in Excellent Quality  Above Average Quality  Average Quality  Below Average Quality  None Of The Above Apply	n a timely manner?
Remarks:	
12. To what extent was the design firm able to solve and delays and project cost increases?	nd/or resolve design issues while minimizing time
Excellent Ability	
Above Average Ability	
Average Ability	
Below Average Ability	
None Of The Above Apply	

	_	P	AGE	_0F
No. 12 Remarks:				
NO. 12 Remarks.				
10 M		, ,•	.1	C 1.
3. How well did the completed design meet asability, aesthetics and construction budget?		expectations wi	th regard to	Tunctionalit
Excellent Quality			$\neg$	
Above Average Quality				
Average Quality				
Below Average Quality				
None of the Above Apply				
			<u>S):</u>	
	ed with the desi	gn firm's:		ıle?
			S):	ıle?
4. To what extent were the end users satisfie	ed with the desi	gn firm's:		ıle?
4. To what extent were the end users satisfied Exceptional Level of Satisfaction	ed with the desi	gn firm's:		ıle?
Exceptional Level of Satisfaction  Above Average Level of Satisfaction	ed with the desi	gn firm's:		ıle?
Above Average Level of Satisfaction Average level of Satisfaction	ed with the desi	gn firm's:		ıle?
Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below average level of Satisfaction None of the Above Apply	Quality?	gn firm's:		ıle?
Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below average level of Satisfaction	Quality?	gn firm's:		ıle?
Exceptional Level of Satisfaction Above Average Level of Satisfaction Average level of Satisfaction Below average level of Satisfaction None of the Above Apply	Quality?	gn firm's:		ıle?

OFFEROR:	PAGE	OF
15. If given the opportunity, would you work with this contractor again.	? Please Expla	iin:
TIMELINESS OF PERFORMANCE:		
16. To what extent did the contractor meet the task order schedules?		
Completed work substantially ahead of schedule, based on the orig schedule, with time extensions allowed for modifications.  Completed work within schedule, with no time extensions required result of contractor's actions, or delays		
Completed work, with minor time extensions required.  Completed work, with major time extensions required.  None of the above apply.		
Remarks:		
17. OTHER REMARKS: Please use the remainder of this page or th information related to the contractor's performance. This may include the this questionnaire provided by the Contractor (items 1-10), the Contract subcontractors, effectiveness of their small/small disadvantaged business in dealing with contract challenges, their overall concern for the Govern project awards received, etc.	e accuracy of tor's selection s subcontraction	the information in and management of ng plan, flexibility

### **DESIGN & CONSTRUCTION EXPERIENCE FORM**

Name of Offeror or Joint Venture Offeror:			
If experience is for a firm that is different from the Offeror, name of that firm:			
Complete name of the Customer (Government agency, commercial firm, or	other organization):		
2. Complete Address			
3. Contract number or other reference	4. Date of contract		
5. Performance period of contract	6. Date work was completed		
7. Contract value, estimated value, or target cost	8. Location of work (country, state or province, county, city)		
9. Technical point of contact (name, title, address, telephone no. and email address)	10. Contracting or purchasing point of contract and alternate (name, title, address, telephone no. and email address)		
11. Description of Project, it's complexities, and your firm's role, key trades involved and extent of self-performed work. Describe aspects of the project that make it relevant to this acquisition. If applicable, include Subcontracting goals(Small, Small Disadvantaged and Women Owned Business) and actual attainment. Attach an explanation of any performance problems or conflicts with the customers. Describe any litigation, pending, on-going, or completed. <b>Use a continuation sheet, if necessary.</b>			
12. Current status of contract: Work completed, no further action pending or underway Work completed, litigation pending or underway Work completed, routine administrative action pending or underwa Terminated for convenience Work completed, claims negotiations pending or underway Terminated for default Other (explain)	У		

#### SECTION 00120 PROPOSAL EVALUATION AND CONTRACT AWARD

#### 1. SOURCE SELECTION PROCESS

All offers received in response to this solicitation will be evaluated in accordance with informal source selection procedures. The principal objective of this process is to select the Offeror that presents the overall Best Value to the Government, price and other evaluation factors considered (the Best Value). The right is reserved to accept other than the lowest price offers and to reject any or all offers. Award may be made to the superior proposal, regardless of cost or price, provided that price is determined to be reasonable. The Source Selection Process is designed to ensure the impartial, equitable, and comprehensive evaluation of all technically acceptable, responsible proposals received in response to this solicitation.

### a. Source Selection Organization.

The source selection organization for the subject acquisition is established as a separate organization and management chain of command. The organization consists of a Source Selection Authority (SSA) and a Source Selection Evaluation Board (SSEB). The SSEB is comprised of separate Technical Evaluation and Price Evaluation teams. The organization is designed to ensure active ongoing involvement of appropriate contracting, technical, logistics, legal, price analysis, small business, and other functional staff management expertise.

#### b. Source Selection Procedures.

The source selection procedures will begin with an initial review of proposals and continues with a technical and price evaluation conducted by the SSEB. The SSEB will evaluate the proposals based solely on the evaluation criteria identified in paragraph: Evaluation Factors, below. The Technical Evaluation Team will rate Evaluation Factors 1 and 2 of each Proposal (Management Plan and Past Performance). The Price Evaluation Team will subjectively evaluate each proposal for price reasonableness. This price analysis is a review of the overall price to determine if it is realistic for the work to be performed and does not reflect an imbalance between line items.

The results of the SSEB evaluations will be presented to the SSA, who will rank the proposals based on the Best Value to the Government, price and other factors considered. The Government intends to award without discussions. The SSA will either make the final source selection decision or determine whether it is appropriate to engage in clarifications or communication prior to establishment of a competitive range, or to establish a competitive range and conduct discussions with offerors included in the competitive range. All communications leading to establishment of the competitive range will be conducted in accordance with FAR Part 15.306b.

If a competitive range is established, discussions will be conducted with offerors who are included in the competitive range. After conclusion of discussions and receipt of final revised technical proposals, the SSEB will complete the evaluation and establish final ratings. Results of the final technical ratings will be presented to the SSA, who will rank the proposals based on

final ratings. Results of the final technical ratings will be presented to the SSA, who will rank the proposals based on the Best Value to the Government, price and other factors considered. The SSA will then make the final source selection decision. If appropriate, the SSA will apply the tradeoff process in the Best Value Continuum.

The proposals received in response to this RFP will be evaluated utilizing a rating system to select the most advantageous proposal. To be considered acceptable, each offeror shall specifically address each of the evaluation factors listed below. Sufficient detail shall be provided, citing specific data as may be required, such that the proposal may be adequately evaluated. The proposal must show clearly that the offeror has an understanding of the work tasks required and has the capability and responsibility to successfully execute the work.

Section 00110 contains instructions regarding Proposal format and content: The Government is not responsible for information overlooked during the evaluation that is not located in the appropriate section of the Proposal. To ensure that evaluation credit is appropriately received for proposal material submitted, do not incorporate by reference, documents not contained in the proposal.

#### 2. BASIS FOR AWARD

Offerors are reminded to include their best technical and price terms in their initial offer and not to assume that they will have an opportunity to participate in discussions or be asked to submit a revised offer. The Government intends to select, without discussions, the responsible offeror whose proposal conforms to the solicitation requirements and is determined to represent the Best Value to the Government, in accordance with the following relationship between price and technical merit: The technical evaluation factors Management Plan and Past Performance), when combined, are significantly more important than price. The closer the total evaluated technical scores of acceptable proposals are to one another, the greater will be the importance of price in making the selection determination.

# 3. EVALUATION FACTORS AND RELATIVE WEIGHTS OF FACTORS AND SUBFACTORS

Evaluation factors are listed below. In developing the ratings for Factors 1 and 2, the Technical Evaluation Team will focus on how well the offerors complied with the Section 00110 PROPOSAL CONTENT requirements and instructions. The completeness, expertise, accuracy, consistency, conciseness, understanding of work performance and technical requirements, and the relevance of information provided will be important be considerations.

### **FACTOR 1 – Performance Capability (Most important)**

- a. Management Plan: Management Plan: Organization; technical approach; preliminary design and construction schedule; and quality control, subcontracting and management strategies. Evaluation will focus on information requirements discussed in Section 110, paragraph PROPOSAL CONTENT. Offeror compliance with solicitation instructions regarding proposal content, format and page limits will be a minor consideration in the scoring of this subfactor. (Most Important Subfactor).
- b. Specific Personnel Experience: Experience of Principal Managers, Designers and Technical Personnel who will be directly responsible for the day-to-day design and construction activities. These are key individuals, in accordance with contract clause "Key Personnel, Subcontractors and Outside Associates or Consultants" (See Section 00800). The relevancy of specific personnel experience to the proposed acquisition is most important: experience with projects and facilities that are similar and closely related in type size and complexity will be given more weight than experience with the other types of facilities and projects. Education and training, professional registration, and familiarity with local conditions will also be considered by the Technical Evaluation Team. Design-Build projects for the Government, particularly the Corps of Engineers, will be considered relevant. Specific Design Personnel experience must be within the three (3) year period prior to the Proposal due date. Specific Construction Personnel experience must be within the five (5) year period prior to the Proposal due date. (Equal in Importance to Subfactor 1.a).
- c. Offeror Design Experience: <u>Design</u> of similar and closely related projects (type of facility, size and complexity) <u>within the past three (3) years</u>. Design-Build projects for the Government, particularly the Corps of Engineers, will be considered relevant. Also evaluated, if applicable, will be utilization of small, small disadvantage and women owned businesses. (Significantly less important than Subfactor 1.b.)
- d. Offeror Construction Experience: <u>Construction</u> of similar and closely related projects (type of facility, size and complexity) <u>within the past five (5) years</u>. Design-Build projects for the Government, particularly the Corps of Engineers, will be considered relevant. Also evaluated, if applicable, will be utilization of small, small disadvantage and women owned businesses. (Equal in importance to Subfactor 1.c.).

#### **FACTOR 2 – Past Performance (Less Important than Factor 1)**

#### 2a. Past Performance: Design

- 2.a.1 Customer satisfaction (Most important)
- 2.a.2 Quality, Function and Service (Less important than 2.a.1)
- 2.a.3 Timeliness of performance (Equal in importance to 2.a.2)

### 2.b. Past Performance: Construction (Equal importance to 2.a)

- 2.b.1 Customer satisfaction (Most Important & equal to 2.a.1)
- 2.b.2 Quality, Function and Service (Less important than 2.b.1. and equal to 2.a.2)
  - 2.b.3 Timeliness of performance (Equal to 2.b.2.)

In the course of evaluating offeror past performance, the Source Selection Evaluation Board may contact references listed in the Design and Construction Experience Forms. Offerors are therefore advised to make certain that reference employer and telephone numbers are correct on the Design and Construction Experience Forms. As explained in Section 00110, the government may utilize past performance information from other sources.

In developing the past performance ratings, evaluators will consider the degree of relevancy of the available past performance information to the proposed acquisition: information for projects that are similar in type size and complexity will be given more weight than information for projects that are closely related in type size and complexity, which will be given more weight than past performance information for other types of projects. Design-Build projects for the Government, particularly the Corps of Engineers, will be considered relevant. Relevancy includes: (1) similarity of the work in terms of type, size and complexity; (2) Key personnel, branch offices, and subcontactors involved in the example project(s), and how those personnel and offices will be involved with the subject acquisition; (3) the firm's role in the subject acquisition and past performance in similar roles; (4) the age of any adverse past performance information and whether more recent information indicates improvement; and (5) credibility, detail and source of the past performance information.

In the case of an offeror without a record of relevant past performance or for whom information on past performance is not available, the offeror will not be evaluated favorably or unfavorably and will be assigned a neutral rating. During the ranking process, the SSA may also consider past performance information in evaluating overall risk associated with a particular offeror.

If the Government does not receive at least three (3) past performance evaluations for at least three (3) different design project examples, from at least three (3) different references, neutral (satisfactory) ratings will be assigned for subfactors 2.a.1, 2.a.2 and 2.a.3.

If the Government does not receive at least three (3) past performance evaluations for at least three (3) different construction project examples, from at least three (3) different references, neutral (satisfactory) ratings will be assigned for subfactors 2.b.1, 2.b.2 and 2.b.3.

The past performance subfactor ratings will be based on responses by the references to specific Past Performance Evaluation Form questions; however, the evaluators will factor information from other sources into the subfactor ratings.

At no time during this process, nor during the debriefing, nor after award, will the names of the individuals providing reference information about an offeror's past performance be revealed to the offerors or to any other party. Offerors may be afforded the opportunity to respond to adverse comments made by references in accordance with guidelines identified in FAR Part 15.3. In this case, comments will be extracted and provided to the offeror. Copies of the questionnaires will not be furnished to the offeror and will remain confidential.

During the ranking process the SSA may also consider past performance information in evaluating overall risk associated with a particular offeror.

# FACTOR 3 – Price (Significantly less important than Factor 1 and Factor 2 combined):

- a. Price will not be point-scored, but will be subjectively evaluated by the Price Evaluation Team. Price will be used as a discriminator in the event that two or more proposals are rated equally based on evaluation of the Technical Factors. The closer the total evaluated technical scores of acceptable offers are to one another, the greater will be the importance of price in making the selection determination.
- b. If the Price Evaluation Team has reason to question the reasonableness of a price proposal, or has reason to believe there is unbalancing in the price proposal, the PET may conduct such additional reasonable analysis as it requires in order to complete a thorough price analysis. Because the evaluation of the price proposal will represent a portion of the total evaluation, it is possible that an offeror might not be selected because of an unbalanced or an unreasonable price proposal.
- c. The evaluated price information will be reported to the SSA. The SSA will utilize the technical ratings and the price evaluations in preparing its overall ranking of the proposals and as to the Best Value determination for selection of successful offerors.

#### 2. DEBRIEFING

In accordance with FAR 15.505 <u>Preaward Debriefing of Offerors</u>, and FAR 15.506 <u>Postaward Debriefing of Offerors</u>, the offeror should be aware of the following.

PRE-AWARD DEBRIEFING OF OFFERORS (FAR 15.505)

Offerors excluded from the competitive range or otherwise excluded from the competition before award may request a debriefing before award (10 U.S.C. 2305(b)(6)(A) and 41. U.S.C. 253b(f)-(h)).

- (a)(1) The offeror may request a preaward debriefing by submitting a written request for debriefing to the Contracting Officer within 3 days after receipt of the notice of exclusion from the competition.
- (2) At the offeror's request, this debriefing may be delayed until after award. If the debriefing is delayed until after award, it shall include all information normally provided in a postaward debriefing (see 15.506(d)). Debriefings delayed pursuant to this paragraph could affect the timeliness of any protest filed subsequent to the debriefing.
- (3) If the offeror does not submit a timely request, the offeror need not be given either a preaward or a postaward debriefing. Offerors are entitled to no more than one debriefing for each proposal.
- (b) The Contracting Officer shall make every effort to debrief the unsuccessful offeror as soon as practicable, but may refuse the request for a debriefing if, for compelling reasons, it is not in the best interests of the Government to conduct a debriefing at that time. The rationale for delaying the debriefing shall be documented in the contract file. If the Contracting Officer delays the debriefing, it shall be provided no later than the time postaward debriefings are provided under 15.506. In that event, the Contracting Officer shall include the information at 15.506(d) in the debriefing.
- (c) Debriefings may be done orally, in writing, or by any other method acceptable to the Contracting Officer.

The Contracting Officer should normally chair any debriefing session held. Individuals who conducted the evaluations shall provide support.

At minimum, preaward debriefings shall include--

- (1) The agency's evaluation of significant elements in the offeror's proposal;
- (2) A summary of the rationale for eliminating the offeror from the competition; and
- (3) Reasonable responses to relevant questions about whether source selection procedures contained in the solicitation, applicable regulations, and other applicable authorities were followed in the process of eliminating the offeror from the competition.

Preaward debriefings shall not disclose--

The number of offerors:

The identity of other offerors;

The content of other offerors' proposals;

The ranking of other offerors;

The evaluation of other offerors: or

Any of the information prohibited in 15.506(e).

An official summary of the debriefing shall be included in the contract file.

#### POSTAWARD DEBRIEFING OF OFFERORS FAR 15.506

- (a)(1) An offeror, upon its written request received by the agency within 3 days after the date on which that offeror has received notification of contract award in accordance with 15.503(b), shall be debriefed and furnished the basis for the selection decision and contract award.
- (2) To the maximum extent practicable, the debriefing should occur within 5 days after receipt of the written request. Offerors that requested a postaward debriefing in lieu of a preaward debriefing, or whose debriefing was delayed for compelling reasons beyond contract award, also should be debriefed within this time period.
- (3) An offeror that was notified of exclusion from the competition (see 15.505(a)), but failed to submit a timely request, is not entitled to a debriefing.
- (4)(i) Untimely debriefing requests may be accommodated.
- (ii) Government accommodation of a request for delayed debriefing pursuant to 15.505(a)(2), or any untimely debriefing request, does not automatically extend the deadlines for filing protests. Debriefings delayed pursuant to 15.505(a)(2) could affect the timeliness of any protest filed subsequent to the debriefing.
- (b) Debriefings of successful and unsuccessful offerors may be done orally, in writing, or by any other method acceptable to the Contracting Officer.
- (c) The Contracting Officer should normally chair any debriefing session held. (Individuals who conducted the evaluations shall provide support.)

At a minimum, the debriefing information shall include--

- (1) The Government's evaluation of the significant weaknesses or deficiencies in the offeror's proposal, if applicable;
- (2) The overall evaluated price (including unit prices), and technical rating, if applicable, of the successful offeror and the debriefed offeror, and past performance information on the debriefed offeror:
- (3) The overall ranking of all offerors, when any ranking was developed by the agency during the source selection;

- (4) A summary of the rationale for award;
- (5) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror; and
- (6) Reasonable responses to relevant questions about whether source selection procedures contained in the solicitation, applicable regulations, and other applicable authorities were followed.
- (e) The debriefing shall not include point-by-point comparisons of the debriefed offeror's proposal with those of other offerors. Moreover, the debriefing shall not reveal any information prohibited from disclosure by 24.202 or exempt from release under the Freedom of Information Act (5 U.S.C. 552) including--
- (1) Trade secrets;

Privileged or confidential manufacturing processes and techniques;

- (3) Commercial and financial information that is privileged or confidential, including cost breakdowns, profit, indirect cost rates, and similar information; and
- (4) The names of individuals providing reference information about an offeror's past performance.
- (f) An official summary of the debriefing shall be included in the contract file.

#### SECTION 00600 Representations & Certifications

#### CLAUSES INCORPORATED BY REFERENCE:

52.203-11	Certification And Disclosure Regarding Payments To Influence	APR 1991
	Certain Federal Transactions	
252.209-7001	Disclosure of Ownership or Control by the Government of a	MAR 1998
	Terrorist Country	
252.227-7028	Technical Data or Computer Software Previously Delivered to the	JUN 1995
	Government	

#### CLAUSES INCORPORATED BY FULL TEXT

#### 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

- (a) The offeror certifies that --
- (1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –
- (i) Those prices,
- (ii) The intention to submit an offer, or
- (iii) The methods of factors used to calculate the prices offered:
- (2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
- (3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.
- (b) Each signature on the offer is considered to be a certification by the signatory that the signatory --
- (1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or
- (2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison \_\_\_\_\_\_ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);
- (ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and
- (iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

#### 52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

- (a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.
- (b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

- 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)
- (a)(1) The Offeror certifies, to the best of its knowledge and belief, that--
- (i) The Offeror and/or any of its Principals--
- (A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;
- (B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
- (C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.
- (ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.
- (2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

- (c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.
- (d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- (e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

#### 52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not intend [check applicable block] to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following

spaces the required information:

Place of performance (street Name and address of owner and address, city, state, county, zip operator of the plant or facility code) if other than offeror or respondent

# 52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2001) ALTERNATE I (OCT 2000) & ALTERNATE II (OCT 2000)

- (a)(1) The North American Industry Classification System (NAICS) code for this acquisition is NAICS code). (insert
- (2) The small business size standard is (insert size standard).
- (3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.
- (b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.
- (2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.			
(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.			
$(5)$ (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph $(b)(4)$ of this provision.) The offeror represents as part of its offer that it $(\ )$ is, $(\ )$ is not a service-disabled veteran-owned small business concern.			
(6) (Complete only if offeror represented itself as small business concern in paragraph (b)(1) of this provision). The offeror represents, as part of its offer, that			
(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR Part 126; and			
(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.			
(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:			
( ) Black American.			
( ) Hispanic American.			
( ) Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).			
( ) Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).			
( ) Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).			
(c) Definitions. As used in this provision			
Service-disabled veteran-owned small business concern-			
(1) Means a small business concern			
(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and			

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern-

- (1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and
- (2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern --

- (1) That is at least 51 percent owned by one or more women; in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and
- (2) Whose management and daily business operations are controlled by one or more women.
- (d) Notice.
- (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.
- (2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--
- (i) Be punished by imposition of fine, imprisonment, or both;
- (ii) Be subject to administrative remedies, including suspension and debarment; and
- (iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

#### 52.219-22 SMALL DISADVANTAGED BUSINESS STATUS (OCT 1999)

- (a) General. This provision is used to assess an offeror's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.
- (b) Representations.
- (1) General. The offeror represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--
- \_\_\_ (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

- (A) No material change in disadvantaged ownership and control has occurred since its certification;
- (B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at  $13 \text{ CFR} \ 124.104(c)(2)$ ; and
- (C) It is identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration(PRO0Net); or
- \_\_\_ (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.
- (2)\_\_\_ For Joint Ventures. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b)(1) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_\_.]
- (c) Penalties and Remedies. Anyone who misrepresents any aspects of the disadvantaged status of a concern for the purposes of securing a contract or subcontract shall:
- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

(End of provision)

#### 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

- (a) [ ] It has, [ ] has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;
- (b) [ ] It has, [ ] has not, filed all required compliance reports; and
- (c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

#### 52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

- (a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.
- (b) By signing this offer, the offeror certifies that--
- (1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic

Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

- (2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)
- [] (i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);
- [] (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);
- [] (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);
- [] (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or
- [] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

## 52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION (MAY 2001)

(a) Definitions. As used in this provision--

Historically black college or university means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institution means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1067k, including a Hispanic-serving institution of higher education, as defined in Section 316(b)(1) of the Act (20 U.S.C. 1101a)).

- (b) Representation. The offeror represents that it--
- ( ) is ( ) is not a historically black college or university;
- ( ) is ( ) is not a minority institution.

(End of provision)

#### 52.227-6 ROYALTY INFORMATION (APR 1984)

- (a) Cost or charges for royalties. When the response to this solicitation contains costs or charges for royalties totaling more than \$250, the following information shall be included in the response relating to each separate item of royalty or license fee:
- (1) Name and address of licensor.
- (2) Date of license agreement.

- (3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.
- (4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.
- (5) Percentage or dollar rate of royalty per unit.
- (6) Unit price of contract item.
- (7) Number of units.
- (8) Total dollar amount of royalties.
- (b) Copies of current licenses. In addition, if specifically requested by the Contracting Officer before execution of the contract, the offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

(End of provision)

#### 252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

- (a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.
- (b) Representation. The Offeror represents that it:
- \_\_\_\_ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.
- \_\_\_\_ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.
- (c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

#### NOTICE TO OFFERORS

If your firm is a large business and your bid exceeds \$500,000 or more for services or \$1,000,000 for construction, your attention is directed to the following provisions contained in the solicitation:

- 52.219-8, Utilization of Small, Small Disadvantaged and Women-Owned Business Concerns (Alternate I) 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (Alternate I)
  - 52.219-16, Liquidated Damages Small Business Subcontracting Plan 52.226-1, Utilization of Indian Organizations and Indian-Owned Economic Enterprises

For your information, the United Army Corps of Engineers considers the following goals reasonable and achievable for fiscal year and during the performance of the resultant contract.

- a. 61.4% of planned subcontracting dollars will be placed with all small business concerns.
- b. 9.1% of planned subcontracting dollars will be placed with those small business concerns owned and controlled by socially and economically disadvantaged individuals.
- c. 5% of planned subcontracting dollars will be placed with those small business concerns owned and controlled by women.
- d. 3% of planned subcontracting dollars will be placed with those small business concerns owned and controlled by service disabled veterans.
- e. There are no established goals for planned subcontracting dollars placed with those small business concerns owned and controlled by certified Hubzone concerns, small business concerns owned and controlled by veterans, and Historic Black Colleges and/or Minority Institutions, however, subcontracting with these concerns is highly encouraged.

Goals included in any proposed subcontracting plan should be at least equal to those indicated above. If lesser goals are proposed, you must substantiate how the proposed plan represents the firm best effort to comply with the terms and conditions of the solicitation. Offerors are highly encouraged to become familiarize with the intent of the solicitation provisions and the elements of the subcontracting plan.

The subcontracting plan must contain, at a minimum, the elements set forth in solicitation provision 52.219-9. Proposed plans will be reviewed to ensure the plan represents the firm's best efforts to maximize subcontracting opportunities for small, small disadvantaged and women-owned businesses. Subcontracting plans require Contracting Officer approval prior to contract award.

Should the selected offeror fail to submit an acceptable subcontracting plan within the time limit prescribed by the Contracting Officer, the offeror will be considered ineligible for award. The approved subcontracting plan (to include goals) will become a material part of the contract. An example of a format of a subcontracting plan is attached for your information. The attached plan is an example only and should not be construed as the only acceptable subcontracting plan format. Any format will be acceptable provided the plan addresses each element as required by the Federal Acquisition Regulations and its supplements.

Should you have any questions or need assistance in developing your plan, please contact the assigned Contract Specialist or the District's Deputy for Small Business at 816-983-3927 or fax your inquiries to 816-426-2979.

# SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN **EXAMPLE**

		DATE:
CONTRACTOR:		
ADDRESS:		
PHONE NO:		
PROJECT TITLE:		
SOLICITATION NO:		
CONTRACT NO:		
<ol> <li>In accordance with the contract clauses at 52.219-8 a Subcontracting Plan for Small, Small Disadvantaged, a</li> <li>Subcontracting goals for this contract:</li> </ol>		
a. Total contract amount is \$		
b. Total dollars planned to be subcontracted (to al	l types of businesses): \$	·
Type of Subcontractor	Amount Planned to be Subcontracted	Percentage of Subcontracted Dollars
Large Business		%
Small Businesses		%
- Small Disadvantaged*		%
- Small Women-Owned		%
- Small Service Disabled Veterans Owned		%
- Small Veteran Owned		%
HubZone Concern		%
Historical Black College and Minority Institution		%
Total		100%
*NOTE: Women-owned businesses are not considered	l a am all dia a du anta a a d busin sa	* * * * * *
awards to women-owned businesses in your calculation disadvantaged business.  3. The principal items or areas we will subcontract und remember to include materials/supplies when develop Section number):	ns unless the firm meets the definder this contract are (NOTE: Con	nition of a small  nstruction contractors

Businesses:	Of the items or areas stated in 3.a; we plan to subcontract the following to Small Disadvantaged
c. Businesses:	Of the items or areas stated in 3.a; we plan to subcontract the following to Small Women-Owned
	Of the items or areas stated in 3.a; we plan to subcontract the following to Small Service Disabled wned Businesses:
e. Businesses:	Of the items or areas stated in 3.a; we plan to subcontract the following to Small Veteran-Owned
f.	Of the items or areas stated in 3; we plan to subcontract the following to Hub Zone concerns:
g. Minority In	Of the items or areas stated in 3; we plan to subcontract the following to Historically Black Colleges and stitutions:
your goals, incurred wi	costs were () were not () used in establishing subcontracting goals. **If indirect costs are included in furnish a description of the method used to determine the proportionate share of indirect costs to be th (i) small business concerns (ii) small disadvantaged business concerns and (iii) women-owned.**
6. The follo	wing individual will administer this Subcontracting Plan on behalf of (name of contractor):
Name:	Title:
Address:	
Telephone:	
The afo	prementioned individual's specific duties will include, but is not limited to:

- a. Developing and maintaining source lists of small, small disadvantaged and women-owned small business concerns. Sources used are the Small Business Administration's Procurement Automated Source System (PASS), the National Minority Purchasing Council Vendor Information Service, Minority Business Development Agency, US Department of Commerce, Local Minority Business Development Centers, Economic Development Centers, and National Center for American Indian Enterprise Development.
- b. Assuring the inclusion of small, small disadvantaged, and women-owned small business concerns in all solicitations for products or services which they are capable of providing; and ensuring that all solicitations are structured to permit the maximum possible participation by small, small disadvantaged and women-owned small business concerns.
- c. Establishing and maintaining records of all subcontract awards to ensure appropriate documentation of non-selection of bids submitted by a small, small disadvantaged business, or women-owned small business concerns.
- d. Preparing and submitting the Subcontracting Report for Individual Contracts (SF 294) and the Summary Subcontract Report (SF 295) in accordance with instructions provided, and coordinating and preparing for all compliance reviews by Federal agencies.
- e. Promoting activities necessary to further the intent of the subcontracting plan. Activities include motivational training of purchasing personnel; attendance at workshops, seminars and trade fairs conducted by or on behalf of small business and/or small disadvantaged and/or women-owned small business concerns; and general cooperation with members of the small, small disadvantaged and women-owned small business concerns or their representatives.
- 7. The following steps will be taken to ensure that small, small disadvantaged, and women-owned small business concerns receive notice of and have an equitable opportunity to compete for intended awards of subcontracts and/or purchase orders for the products and/or services describe in paragraph 4 above:
- a. Sources will be requested through SBA's PASS system, business development organizations, minority and small business trade associations and at small, minority and women-owned small business procurement conferences; sources will be contacted; and bidding materials will be provided to all responding parties expressing an interest.
- b. The firm will conduct and maintain internal motivational training to guide and encourage purchasing personnel to maintain source lists and guides to small, small disadvantaged, and women-owned small business concerns. Purchasing activities will be monitored to ensure sufficient time is allowed for interested offerors to prepare bids and to ensure continuous compliance with the approved Subcontracting Plan.
- 8. [Name of contractor] agrees that the clause entitled "Utilization of Small, Small Disadvantaged and Women-Owned Business Concerns" will be included in all subcontracts that offer further subcontracting opportunities. All subcontractors, except small business concerns, who receive subcontracts in excess of \$500,000 (\$1,000,000 in the case of construction) will be required to adopt a plan similar to this one. Such plans will be reviewed to assure that all minimum requirements of an acceptable subcontracting plan have been satisfied.

The acceptability of proposed goals shall be determined on a cases-by-case basis depending on the supplies/services involved, the availability of potential small, small disadvantaged, and women-owned subcontractors, and prior experience. Once approved and implemented, plans will be monitored through the submission of periodic reports or, as time and availability of funds permit, periodic visits to subcontractors facilities to review applicable records and subcontracting program progress.

9. The Firm agrees to submit periodic reports and cooperate in any studies or surveys required by the Contracting Activity or Small Business Administration to determine the extent of the firm compliance with the subcontracting plan.

- 10. (Name of Contractor) agrees to maintain at least the following types of records to document compliance with the Subcontracting Plan:
- a. The names of all organizations, agencies, and associations contacted for small, small disadvantaged, and women-owned small business sources, along with records of attendance at conference, seminars and trade fairs where additional sources were developed.
- b. Source lists, guides, and other data identifying small business concerns, small disadvantaged business concerns and women-owned small business concerns.
- c. Records of subcontracts award in excess of \$100,000 will demonstrate how small business concerns, small disadvantaged business concerns and women-owned business concerns were solicited or provide an explanation as to why these business concerns were not considered for subcontracting opportunities.
- d. Records of subcontract award data to include subcontractor's name and address, to be kept on a contract-by-contract basis.
- e. Minutes of internal motivational and training meetings held for the guidance and encouragement of purchasing personnel, and records of all monitoring activities performed for compliance evaluation.
- f. Copies of SF 294 and SF 295 showing date and place of filing and copies of all other reports or results of reviews conducted by the contracting agency or other interested agencies of the Federal government to monitor our compliance with this Subcontracting Plan.
- 11. (*Name of Contractor*) will submit a SF 295, Summary Subcontract Report, on Corps of Engineers projects only. The SF 295 shall be completed and distributed in accordance with the Corps of engineers Supplemental Instructions. (*Name of Contractor*) will not report Corps of Engineers projects through any other Agency unless authorized by the Contracting Officer.

Contractor's Signature:
Typed Name:
Title:
Date:
This Plan is Accepted By:
Contracting Officer
Date:
<b>NOTE:</b> If this solicitation has options, the plan must contain separate goals for <u>each</u> option. EXAMPLE:
1. Option #
a. Total contract amount is \$
b. Total dollars planned to be subcontracted (to all types of businesses): \$

Type of Subcontractor	Amount Planned to be Subcontracted	Percentage of Subcontracted Dollars
Large Business		%
Small Businesses		%
- Small Disadvantaged*		%
- Small Women-Owned		%
- Small Service Disabled Veterans Owned		%
- Small Veteran Owned		%
HubZone Concern		%
Historical Black College and Minority Institution		%
Total		100%

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### SECTION 00700 Contract Clauses

### CLAUSES INCORPORATED BY REFERENCE:

52.202-1 Alt I	Definitions (Dec 2001) Alternate I	MAY 2001
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or	JAN 1997
02.200	Improper Activity	0121 ( 155 )
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 1997
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With	JUL 1995
	Contractors Debarred, Suspended, or Proposed for Debarment	
52.211-13	Time Extensions	SEP 2000
52.211-18	Variation in Estimated Quantity	APR 1984
52.215-2	Audit and RecordsNegotiation	JUN 1999
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	DEC 1998
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-17	Reversion or Adjustment of Plans for Postretirement Benefits	OCT 1997
32.213-10	(PRB) Other than Pensions	001 1777
52.215-19	Notification of Ownership Changes	OCT 1997
52.216-7 Alt I	Allowable Cost and Payment (Apr 1998) - Alternate I	FEB 1997
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-9	Small Business Subcontracting Plan	JAN 2002
52.219-16	<u> </u>	
	Liquidated Damages-Subcontracting Plan Convict Labor	JAN 1999
52.222-3		AUG 1996
52.222-4	Compression	SEP 2000
50 000 C	Compensation  Davis Bases Ast	EED 1005
52.222-6	Davis Bacon Act	FEB 1995
52.222-7	Withholding of Funds	FEB 1988
52.222-8	Payrolls and Basic Records	FEB 1988
52.222-9	Apprentices and Trainees	FEB 1988
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	FEB 1988
52.222-12	Contract Termination-Debarment	FEB 1988
52.222-13	Compliance with Davis-Bacon and Related Act Regulations.	FEB 1988
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	FEB 1988
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	FEB 1999
52.222-27	Affirmative Action Compliance Requirements for Construction	FEB 1999
52.222-35	Equal Opportunity For Disabled Veterans, Veterans of the Vietnam	DEC 2001
	Era and Other Eligible Veterans	
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of	DEC 2001
	The Vietnam Era and Other Eligible Veterans	
52.223-6	Drug Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	OCT 2000

52.225-13	Restrictions on Certain Foreign Purchases	JUL 2000
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright	AUG 1996
32.227 2	Infringement	1100 1770
52.227-4	Patent Indemnity-Construction Contracts	APR 1984
52.228-1	Bid Guarantee	SEP 1996
52.228-11	Pledges Of Assets	FEB 1992
52.228-14	Irrevocable Letter of Credit	DEC 1999
52.229-3	Federal, State And Local Taxes	JAN 1991
52.229-5	TaxesContracts Performed In U S Possessions Or Puerto Rico	APR 1984
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 1997
52.232-10	Payments under Fixed-Price Architect-Engineer Contracts	AUG 1987
52.232-17	Interest	JUN 1996
	I Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	MAY 2001
52.232-27	Prompt Payment for Construction Contracts	MAY 2001
52.232-33	Payment by Electronic Funds TransferCentral Contractor	MAY 1999
<b>32.232</b> 33	Registration	1,1111 1,,,,
52.233-1	Disputes	DEC 1998
52.233-3	Protest After Award	AUG 1996
52.236-2	Differing Site Conditions	APR 1984
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-6	Superintendence by the Contractor	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-8	Other Contracts	APR 1984
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities,	
	and Improvements	
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-13	Accident Prevention	NOV 1991
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-17	Layout of Work	APR 1984
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.236-21 Alt	I Specifications and Drawings for Construction (Feb 97) - Alternate	IAPR 1984
52.236-24	Work Oversight in Architect-Engineer Contracts	APR 1984
52.236-25	Requirements for Registration of Designers	APR 1984
52.236-26	Preconstruction Conference	FEB 1995
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984
52.243-1 Alt II	I ChangesFixed Price (Aug 1987) - Alternate III	APR 1984
52.243-4	Changes	AUG 1987
52.244-4	Subcontractors and Outside Associates and Consultants (Architect	- AUG 1998
	Engineer Services)	
52.244-6	Subcontracts for Commercial Items	DEC 2001
52.246-12	Inspection of Construction	AUG 1996
52.247-34	F.O.B. Destination	NOV 1991
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (Sep	SEP 1996
	1996) - Alternate I	
52.249-7	Termination (Fixed-Price Architect-Engineer)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-	MAR 1999

	Contract-Related Felonies	
252.203-7002	Display Of DOD Hotline Poster	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004	Required Central Contractor Registration	NOV 2001
252.205-7000	Provisions Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection	NOV 1995
	Under The Intermediate Range Nuclear Forces (INF) Treaty	
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The	MAR 1998
	Government of a Terrorist Country	
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	OCT 1998
252.219-7003	Small, Small Disadvantaged and Women-Owned Small Business	APR 1996
	Subcontracting Plan (DOD Contracts)	
252.225-7012	Preference For Certain Domestic Commodities	AUG 2000
252.225-7031	Secondary Arab Boycott Of Israel	JUN 1992
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic	SEP 2001
	Enterprises-DoD Contracts	
252.227-7015	Technical DataCommercial Items	NOV 1995
252.227-7022	Government Rights (Unlimited)	MAR 1979
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7033	Rights in Shop Drawings	APR 1966
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.231-7000	Supplemental Cost Principles	DEC 1991
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.242-7000	Postaward Conference	DEC 1991
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components	MAR 2000
	(DoD Contracts)	
252.246-7000	Material Inspection And Receiving Report	DEC 1991
252.247-7023	Transportation of Supplies by Sea	MAR 2000
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.248-7000	Preparation Of Value Engineering Change Proposal	MAY 1994

#### CLAUSES INCORPORATED BY FULL TEXT

### 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)—ALTERNATE IV (OCT 1997)

- (a) Submission of cost or pricing data is not required.
- (b) Provide information <u>described in section 00110 SUBMISSION REQUIREMENTS AND INSTRUCTIONS.</u>

# 52.215-21 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data for modifications under this contract, for price adjustments expected to exceed the threshold set forth at FAR 15.403-4 on the date of the agreement on price or the date of the award, whichever is later, the Contractor may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable--

- (i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.
- (ii) Information on modifications of contracts or subcontracts for commercial items. (A) If-
- (1) The original contract or subcontract was granted an exception from cost or pricing data requirements because the price agreed upon was based on adequate price competition or prices set by law or regulation, or was a contract or subcontract for the acquisition of a commercial item; and
- (2) The modification (to the contract or subcontract) is not exempted based on one of these exceptions, then the Contractor may provide information to establish that the modification would not change the contract or subcontract from a contract or subcontract for the acquisition of a commercial item to a contract or subcontract for the acquisition of an item other than a commercial item.
- (B) For a commercial item exception, the Contractor shall provide, at a minimum, information on prices at which the same item or similar items have previously been sold that is adequate for evaluating the reasonableness of the price of the modification. Such information may include--
- (1) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.
- (2) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.
- (3) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.
- (2) The Contractor grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this clause, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace.
- (b) Requirements for cost or pricing data. If the Contractor is not granted an exception from the requirement to submit cost or pricing data, the following applies:
- (1) The Contractor shall submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before award (except for unpriced actions), the Contractor shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

# 52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance

Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
6.5%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

- (c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.
- (d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --
- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.
- (e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Riley and Geary Counties, Kansas.

## 52.225-11 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (DEC 2001)

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site

preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

- (1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or
- (2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Designated country means any of the following countries: Aruba, Austria, Bangladesh, Belgium, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Canada, Cape Verde, Central African Republic, Chad, Comoros, Denmark, Djibouti, Equatorial Guinea, Finland, France, Gambia, Germany, Greece, Guinea, Guinea-Bissau, Haiti, Hong Kong, Iceland, Ireland, Israel, Italy, Japan.

Kiribati, Korea, Republic of, Lesotho, Liechtenstein, Luxembourg, Malawi, Maldives, Mali, Mozambique, Nepal, Netherlands, Niger, Norway, Portugal, Rwanda.

Sao Tome and Principe, Sierra Leone, Singapore, Somalia, Spain, Sweden, Switzerland, Tanzania U.R., Togo, Tuvalu, Uganda, United Kingdom, Vanuatu, Western Samoa, Yemen.

Designated country construction material means a construction material that--

- (1) Is wholly the growth, product, or manufacture of a designated country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a designated country into a new and different construction material distinct from the materials from which it was transformed.

Domestic construction material means--

- (1) An unmanufactured construction material mined or produced in the United States; or
- (2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

North American Free Trade Agreement country means Canada or Mexico.

North American Free Trade Agreement country construction material means a construction material that-

- (1) Is wholly the growth, product, or manufacture of a North American Free Trade Agreement (NAFTA) country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a NAFTA country into a new and different construction material distinct from the materials from which it was transformed.

United States means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

- (b) Construction materials. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) and the Balance of Payments Program by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the Trade Agreements Act and the North American Free Trade Agreement (NAFTA) apply to this acquisition. Therefore, the Buy American Act and Balance of Payments Program restrictions are waived for designated country and NAFTA country construction materials.
- (2) The Contractor shall use only domestic, designated country, or NAFTA country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.
- (3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows:

   NONE --
- (4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--
- (i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent. For determination of unreasonable cost under the Balance of Payments Program, the Contracting Officer will use a factor of 50 percent;
- (ii) The application of the restriction of the Buy American Act or Balance of Payments Program to a particular construction material would be impracticable or inconsistent with the public interest; or
- (iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.
- (c) Request for determination of inapplicability of the Buy American Act or Balance of Payments Program. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--
- (A) A description of the foreign and domestic construction materials;
- (B) Unit of measure;
- (C) Quantity;
- (D) Price;
- (E) Time of delivery or availability;
- (F) Location of the construction project;
- (G) Name and address of the proposed supplier; and
- (H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.
- (ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.
- (iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

- (iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.
- (2) If the Government determines after contract award that an exception to the Buy American Act or Balance of Payments Program applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.
- (3) Unless the Government determines that an exception to the Buy American Act or Balance of Payments Program applies, use of foreign construction material is noncompliant with the Buy American Act or Balance of Payments Program.
- (d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison Construction material description Unit of measure Quantity Price (dollars) \1\ Construction material description Unit of measure Quantity Price (dollars Item 1: Foreign construction material... Domestic construction material... Item 2: Foreign construction material... Domestic construction material... \1\ Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued). List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary. Include other applicable supporting information. (End of clause)

#### 52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least TWENTY PERCENT (20%) of the total amount of construction work to be performed under the contract (design work by the A-E of record is not covered by this clause). This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

#### 52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or

the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

- (b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--
- (1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include
- (i) acts of God or of the public enemy,
- (ii) acts of the Government in either its sovereign or contractual capacity,
- (iii) acts of another Contractor in the performance of a contract with the Government,
- (iv) fires,
- (v) floods,
- (vi) epidemics,
- (vii) quarantine restrictions,
- (viii) strikes,
- (ix) freight embargoes,
- (x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
- (2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.
- (c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://www.arnet.gov/far/

http://web2.deskbook.osd.mil/default.asp

http://web2.deskbook.osd.mil/default.asp

http://acqnet.saalt.army.mil/library/AFAR/AFARS\_OCTOBER\_2001.pdf http://www.hq.usace.army.mil/cepr/asp/library/efar.asp?strCat=7&strSubCat=7

SECTION 00800 Special Contract Requirements

#### CLAUSES INCORPORATED BY REFERENCE:

EM 385-1-1 USACE Safety and Health Requirements Manual, EM 385-1-1 FEB 2001 Note

#### CLAUSES INCORPORATED BY FULL TEXT

#### 52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

- (a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$755.00 for each calendar day of delay until the work is completed or accepted.
- (b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

#### SCR-DB-001 DESIGN-BUILD CONTRACT - ORDER OF PRECEDENCE - AUG 1997

- (a) The contract includes the standard contract clauses and schedules current at the time of contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, and illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.
- (b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:
- (1) Betterments: Any portions of the accepted proposal which both conform to and exceed the provisions of the solicitation.
- (2) The provisions of the solicitation. (See also Contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)
- (3) All other provisions of the accepted proposal.
- (4) Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

(End of Clause)

PROPOSED BETTERMENTS - AUG 1997

- (a) The minimum requirements of the contract are identified in the Request for Proposal. All betterments offered in the proposal become a requirement of the awarded contract.
- (b) A "Betterment' is defined as any component or system, which exceeds the minimum requirements stated in the Request for Proposal. This includes all proposed betterments listed in accordance with the "Proposal Submission Requirements" of the Solicitation, and all Government identified betterments.
- (c) "Government identified betterments" include the betterments identified on the "List of Accepted Project Betterments" prepared by the Proposal Evaluation Board and made part of the contract by alteration, and all other betterments identified in the accepted Proposal after award.

(End of Clause)

# SCR-DB-003 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 42.21 1 -1 0) (APR 1984)

(a) The Contractor shall be required to (a) commence work under this contract within ten (10) calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than the dates or number of calendar days after the date of receipt by him of notice to proceed set forth in the schedule below except as specified in the various landscaping sections. The time stated for completion shall include final cleanup of the premises.

#### **SCHEDULE**

Item of Work	Commencement Time	Completion Time In Calendar Days After Receipt of Notice to Proceed	Liquidated Damages Per Calendar Day
1.1 Design and	TEN (10) CALENDER	SIX HUNDRED	See clause 52.211-12
Construction of Child	DAYS AFTER	THIRTY (630)	
Development Center,	RECEIPT OF NOTICE	CALENDAR DAYS	
Complete	TO PROCEED	(See Note 1)	

### NOTES:

- 1. The completion time includes an allowance for Government review of scheduled design submittals as described in Section 01331 for submittal procedures for design after award. The ACO or COR will notify the contractor in writing when the design is cleared for construction.
- 2. Landscaping and Establishment of Turf. The playground turf (inside fenced areas) shall be established in accordance wiithh the requirements of Section 01012, paragraph 1.6.12: Turf. Landscaping and Turf work outside the fenced areashall be accomplished during the planting season, or portion thereof (but not less than 15 days), concurrent with or immediately following substantial completion of building construction, Maintenance, watering, fertilization, and replacement of dead vegetation shall commence immediately after each plant is planted, mulched, and staked and shall continue for the period stated in the technical requirements. No payment will be made for

Landscaping or Establishment of Turf until all technical requirements of have been adequately performed and accepted, as determined by the Contracting Officer.

3. As-Built Drawings, O&M Manuals, and User Training. The value of these services are pre-set by the Government at \$30,000.00. Upon satisfactory completion of this work the Contractor shall have earned the amount indicated.

(End of Clause)

#### KEY PERSONNEL. SUBCONTRACTORS AND OUTSIDE ASSOCIATES OR CONSULTANTS – AUG 1997

In connection with the services covered by this contract, any in-house personnel, subcontractors, and outside associates or consultants will be limited to individuals or firms that were specifically identified and agreed to during negotiations. The contractor shall obtain the Contracting Officer's written consent before making any substitution for these designated in-house personnel, subcontractors, associates, or consultants.

(End of Clause)

### RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN – FEB 2000

- (a) The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and any other non-construction services furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiency in its designs, drawings, specifications, and other non-construction services and perform any necessary rework or modifications, including any damage to real or personal property, resulting from the design error or omission.
- (b) Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract. The Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of the services described in paragraph (a) furnished under this contract.
- (c) The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law.
- (d) if the Contractor is comprised of more than on legal entity, each entity shall be jointly and severally liable thereunder.

(End of Clause)

### WARRANTY OF CONSTRUCTION WORK - AUG 1997

- (a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (1) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.
- (b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.
- (c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of:

- (1) The Contractor's failure to conform to contract requirements; or
- (2) Any defect of equipment, material, or workmanship.
- (d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.
- (e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

Obtain all warranties that would be given in normal commercial practice;

Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

- (h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.
- (i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.
- (j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of Clause) SEQUENCE OF DESIGN -CONSTRUCTION (FAST TRACK) – AUG 1997

- (a) After receipt of the Contract Notice to Proceed (NTP) the Contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. The Contractor may begin construction on portions of the work for which the Government has reviewed the final design submission and has determined satisfactory for purposes of beginning construction. The ACO or COR will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the ACO or COR, the initial submission failed to meet the minimum quality requirements as set forth in the Contract.
- (b) If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.
- (c) No payment will be made for any in-place construction until all required Submittals have been made, reviewed and are satisfactory to the Government.

(End of Clause)

### CONSTRUCTOR'S ROLE DURING DESIGN PROCESS – JUN 1998

The Contractor's construction management key personnel shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. In addition to the typical required construction activities, the Contractor's involvement includes, but is not limited to, actions such as: integrating the design schedule into the Master Schedule to maximize the effectiveness of fasttracking design and construction (within the limits allowed in the contract), ensuring constructibility and economy of the design, integrating the shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing the construction QC program with the design QC program, and maintaining and providing the design team with accurate, up-to-date redline and as-built documentation. The Contractor shall require and manage the active involvement of key trade subcontractors in the above activities.

(End of Clause)

### SCR-DB-010 VALUE ENGINEERING AFTER AWARD – JUNE 1999

- (a) In reference to Contract Clause 52.248-3, "Value Engineering Construction," the Government may refuse to entertain a "Value Engineering Change Proposal" (VECP) for those "performance oriented" aspects of the Solicitation documents which were addressed in the Contractor's accepted contract proposal and which were evaluated in competition with other offerors for award of this contract.
- (b) The Government may consider a VECP for those "prescriptive" aspects of the Solicitation documents, not addressed in the Contractor's accepted contract proposal or addressed but evaluated only for minimum conformance with the Solicitation requirements.
- (c) For purposes of this clause, the term "performance oriented" refers to those aspects of the design criteria or other contract requirements which allow the Offeror or Contractor certain latitude, choice of and flexibility to propose in its accepted contract offer a choice of design, technical approach, design solution, construction approach or other approach to fulfill the contract requirements. Such requirements generally tend to be expressed in terms of functions to be performed, performance required or essential physical characteristics, without dictating a specific process or specific design solution for achieving the desired result.
- (d) In contrast, for purposes of this clause, the term "prescriptive" refers to those aspects of the design criteria or other Solicitation requirements wherein the Government expressed the design solution or other requirements in terms of specific material, approaches, systems, and/or processes to be used. Prescriptive aspects typically allow the Offerors little or no freedom in the choice of design approach, materials, fabrication techniques, methods of installation, or any other approach to fulfill the contract requirements.

(End of Clause)

#### SCR-DB-011 PARTNERING – FEB 2000

In order to most effectively accomplish this contract, the Government proposes to form a partnership with the Contractor to develop a cohesive building team. It is anticipated that this partnership would involve the Corps of Engineers, Fort Riley Public Works Partnering Directorate Community Activities, the Contractor, primary subcontractors and the designers. This partnership would strive to develop a cooperative management team drawing on the strengths of each team member in an effort to achieve a quality project within budget and on schedule. This partnership would be bilateral in membership and participation will be totally voluntary. Any cost associated with effectuating this partnership, excluding travel and lodging cost of Government personnel, will be borne by the Contractor/each part/the Government. The partnering meetings shall be held at a mutually agreed upon time and date, soon after contract award.

(End of Clause)

#### SCR-DB-012 DESIGN CONFERENCES – AUG 1997

- (a) Pre-Work: As part of the Pre-work Conference conducted after contract award, key representatives of the Government and the Contractor will review the design submission and review procedures specified herein, discuss the preliminary design schedule and provisions for phase completion of the D/B documents with construction activities (fast tracking), as appropriate, meet with Corps of Engineers Design Review personnel and key Using Agency points of contact and any other appropriate pre-design discussion items.
- (b) Design Review Conferences: Review conferences will be held on base for each design for each submittal. The Contractor will bring the personnel that developed the design submittal to the review conference. The conferences will take place the week after the review is complete.

(End of Clause)

### SCR-DB-013 TRAINING – FEB 2000

The Contractor shall provide operational and maintenance training for all systems furnished under this contract for the operating and maintenance personnel. The system manufacturer shall put on the training, where feasible. All operation and maintenance manuals shall be submitted and approved prior to conducting the training and shall be used during training. The Contractor shall video tape the training session on VHS tapes and provide the tapes to the Government.

(End of Clause)

### RECOMMENDED INSURANCE COVERAGE (FEB 2000)

The Design-Build Contractor's attention is invited to the contract requirements concerning "RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN" and "WARRANTY OF CONSTRUCTION WORK." These requirements vest in the Contractor complete responsibility for the professional quality, technical accuracy, and coordination of all design, drawings, specifications and other work or materials furnished by his in-house or consultant forces. The Design-Build Contractor must correct and revise any errors or deficiencies in his work, notwithstanding any review, approval, acceptance or payment by the Government. The Contractor must correct and change any work resulting from his defective design at no additional cost to the Government. The requirements further stipulate that the Design-Build Contractor shall be liable to the Government caused by negligent performance. Though not a mandatory requirement, this is to recommend that the Design-Build Contractor investigate and obtain appropriate insurance coverage for such liability protection.

### SCR\_\_ SUBMITTAL OF WORK TO BE PERFORMED BY THE CONTRACTOR (FEB 2000)

The Contractor shall furnish the Contracting Officer within 10 days after the award the items of work he will performed with his own forces and the estimated cost of those items. The percentage of work that must be performed by the Contractor is stated in Contract Clause 52.236-1, "Performance of Work by the Contractor."

(End of Clause)

### SECTION 01013

### ARCHITECTURAL BUILDING REQUIREMENTS

### PART 1 GENERAL

#### 1.1 REFERENCES

The codes and referenced design publications listed below shall be used as sources of criteria for the architectural design. The most current edition of the code or standard shall be used as criteria for the design unless supplied with a date as listed here. The criteria from these sources may be supplemented but not supplanted, by applicable criteria contained in nationally recognized codes and standards.

#### DEPARTMENT OF THE ARMY

TI-800-1 Design Criteria

TM 5-803-5 (Mar 81) Installation Design

Design Guide Installation Design Guide, Fort Riley,

Kansas

BRICK INSTITUE OF AMERICA

Tech Note 28B Brick Veneer / Steel Stud Walls Nov. 1999

DEPARTMENT OF DEFENSE

MIL-HDBK-1008C (10 Jun 1997) Fire Protection for

Facilities Engineering, Design, and

Construction

DoD-Standard (Jan 2002) Department of Defense

Antiterrorism Standards for buildings

Federal Standards (FED STD)

FED STD 795 (April 1988) Uniform Federal Accessibility

Standards, Available at www.access-board.gov

ADAAG (January 1998) ADA Accessibility

Guidelines for Buildings and Facilities,

Available at www.access-board.gov

OSHA Occupational Safety and Health Standards

INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS

UBC-1997 Uniform Building Code, 1997

NATIONAL FIRE PROTECTION ASSOCIATION

NFPA-101

Life Safety Code, 2000

#### FEDERAL EMERGENCY MANAGEMENT AGENCY

FEMA 361

Design and Construction Guidance for Community Shelters. (July 2000)

#### 1.2 GENERAL

The architectural component of the Child Development Center for School Age Children (CDC) is a single story building with a connector to the existing Youth Activity Center (YAC). The building exterior elevations reflect the interior functional areas of this facility with the central atrium area having a clerestory for natural lighting of the interior of the building. The atrium areas provide a central core and the major circulation node for the facility. The administrative and support portions of the building are on the east side of the building, which allows easy access between the CDC and the Youth Activity Center (YAC) and access to the service entrance of the site. The Activity Rooms designated for the more sedentary activities are located at the front of the building. The Activity rooms designated for the more physical activities are located on the west side of the building, oriented towards the outdoor play area. The large multipurpose room is located on the North side of the building oriented to the outdoor sports field. The exterior features shall reflect the base standards for facilities located on the Custer Hill area as described in the Installation Design Guide, Fort Riley. Building materials for the exterior of this facility shall match the building materials on the Youth Activity Center that is located adjacent to this project.

The major functional activities included in the building are: child activity rooms, central atrium, multipurpose room, administrative area with lobby/reception, kitchen, laundry and storage. Primary support spaces include the janitor closet, toilet rooms, mechanical, electrical, and communication spaces.

The layout of the floor plan and elevations are conceptual and require refinement and adjustments based on basic building structure, equipment selections and circulation. The building is approximately 2176 square meters (23,420 square feet) gross. THE NET AREAS SHOWN ON THE ATTACHED TABLE SHALL NOT BE REDUCED.

Columns shall not be allowed within any of the room spaces as laid out on the enclosed floor plans, unless otherwise shown on the drawings. Pilasters and in-wall columns which protrude into the room spaces and intefere with activities and or furniture placement are not acceptable.

Design of this project is in hard metric units. Design of the project in English units and then conversion to metric is not allowed. Any concrete masonry units and/or concrete walls used in this buildings shall be developed on a standard masonry metric module. Metric masonry module design shall be developed to result in as few cut blocks as possible. Masonry structural properties shall comply with requirements outlined in Section 01015 STRUCTURAL REQUIREMENTS.

### 1.3 DESIRED IMAGE AND ARCHITECTURAL COMPATIBILITY

The contractor shall verify all existing conditions and dimensions during design and prior to construction.

The building shall fit the site and be compatible with the surrounding environment. Building facades and elevations shall be similar in appearance to the enclosed elevation drawings and compatable with the Youth Activities Center, which is adjacent.

The composite floor plan is provided on enclosed sheet labeled A1.1 The facility design is based upon standard metric units. The facility is designed in accordance with Department of the proposed Army Standard Design for Child Development Centers for ages 6 - 10. Criteria from this standard has been used as the basis for the design of the facility.

Overall height of this facility is a single story building with a taller clerestory area above the central atrium and gathering area, Building facade and elevations shall match the appearance provided in the enclosed elevation drawings.

Interior materials and finishes shall comply with the requirements specified in Section 01014 INTERIOR DESIGN REQUIREMENTS.

#### 1.4 DESIGN CRITERIA

The technical sections provided shall serve as the minimum design standards established for this project. Design publications listed in each section shall be used as sources of criteria for design. The criteria from these sources may be supplemented, but not supplanted, by applicable criteria contained in nationally recognized codes, standards, and specifications. The basic US Army Corps of Engineers design guidance is contained in TI-800-1, Design Criteria, TM 5-803-5, Installation Design, and the Design Guide, Installation Design, Fort Riley.

### 1.4.1 Fire Safety

The initial basis for determination of building structure type and building area is the MIL-HDBK-1008C. This will direct the designer to the appropriate area of the UBC-1997 and NFPA-101. Fire separation walls and egress from the facilities shall meet or exceed the requirements of NFPA-101. Also see Section 01018 FIRE PROTECTION REQUIREMENTS of this document. This facility will be completely fire sprinklered as part of the requirement.

### 1.4.2 Occupational Safety and Health

Building design shall comply with OSHA, Occupational Safety and Health Standards criteria for all items which must be included in the design to ensure safety compliance.

### 1.4.3 Handicapped Accessibility

The facility shall be in compliance with the requirements of the Uniform Federal Accessibility Standards (UFAS), FED STD 795 and Americans with Disabilities Act, ADAAG. In situations where conflicts exist between UFAS and ADA requirements, the more stringent requirement shall govern. Spaces designed for children shall meet child development criteria and the Architectural and Transportation Barriers Compliance Board (ATBCB), Recommendations for Accessibility Standards for Children's Environments, dated January 1992.

### 1.5 TECHNICAL SPECIFICATIONS

The government provided technical specifications, Unified Facilities Guide

Specifications (UFGS) are available at the website identified in Section 01331, SUBMITTALS DURING DESIGN. These specifications shall be completely edited by the contractor's design agent and fully coordinated with the drawings to accurately and clearly identify the products used in construction and their installation requirements.

The provided specifications define the minimum requirements and level of quality for items of equipment, materials, installation, and testing that shall be provided for the facility. Where items of equipment, materials, installation, or testing requirements are not covered in the provided specifications; special sections or within each guide specification a new specifications sections shall be prepared by the contractor to cover those subjects.

### 1.6 TYPE AND METHOD OF CONSTRUCTION

### 1.6.1 Facility Construction

This facility shall be designed as permanent construction. The definition of permanent construction per MIL HDBK 1190; "Buildings and facilities designed and constructed to serve a life expectancy of more than 25 years, should be energy efficient, and must have finishes, materials, and systems selected for low maintenance and low life-cycle cost". In accordance with Military Handbook 1008C, all permanent construction over 743 square meters (8000 square feet) is required to be a noncombustible structure. Wood construction shall not be permitted.

#### 1.6.2 Exterior Walls and Finish Materials

Exterior walls and finish materials shall be selected on the basis of architectural compatibility and appearance in accordance with the design provided. The outside face of the exterior walls shall be composed of brick and cast stone. Exterior walls shall have a minimum insulation of Rsi=2.47 (R=14) based on aged insulation values for the opaque portion of the exterior wall construction. If steel stud backup is used in the exterior wall construction, the insulating value of the insulation material between studs must be de-rate in accordance with ASRAE 90.1 table 8C-2. Exterior foundation walls shall have 50mm of Polyurethane Type II perimeter insulation from the top of the footing to the underside of the floor slab. In addition, brick veneer and steel stud back up shall be designed in accordance with the Brick Institutes Tech Note 28B/. The exterior materials, window and storefront glazing, and cast stone shall match those installed on the YAC.

All interior cavity thru-wall flashing shall be a metal type. A non-metal elastomeric ply sheeting is not acceptable.

#### 1.6.3 Interior Wall Construction

All interior walls shall be permanent noncombustible construction. Steel studs when used shall be sized according to the wall heights. Framing shall be spaced at a maximum of  $400 \, \text{mm}$  on center. The contractor shall design the Partition framing and furring system to be capable of carrying a transverse load of 5 PSF with out exceeding either the allowable stress or a deflection of L/240.

Interior walls requiring fire ratings shall be designed and constructed in accordance with an UL tested system. Fire rated walls shall be continuous from the floor to the structural roof deck above. These walls shall allow for structural deflection of the roof structure.

#### 1.6.4 Floors

All interior structural slabs shall be consistent in thickness in any one room. Floors containing floor drains shall be constructed to slope to the drains.

### 1.7 EQUIPMENT AND FURNISHINGS

### 1.7.1 Contractor Furnished and Installed Equipment

Contractor Furnished and Contractor Installed equipment within this facility shall include all items but not limited to the following:

Toilet Accessories

Fire Extinguisher Cabinets

Fire Extinguishers

Casework including control counter with under counter storage for equipment, storage cabinets, and drawers

Ballet Bars and Mirrors

Miscellaneous Shelving in Janitor's Closets, storage rooms, kitchen and scullery.

Mop Sink

Laundry sink

Information board located near control counter

Key storage cabinet

Laundry equipment hook-ups, for 1 commercial washer and 1 commercial gas dryer

Kitchen equipment as listed in the drawings and specifications  $\mbox{Wood}$  and  $\mbox{metal}$  lockers

Walkin Refregerator and Freezer

### 1.7.2 Government-Furnished and Contractor-Installed Equipment

The government will provide the following equipment and the contractor shall install it in this facility: No Government furnished, contractor installed equipment.

### 1.8 SOUND AND VIBRATION CONTROL

### 1.8.1 Wall Construction

Construction methods, materials, and finish materials shall be selected to impede transmission of the human voice and equipment vibrations. Noise generating equipment and activity centers shall be isolated through conventional methods where possible. Utilization of equipment isolators, construction of full height walls, stud staggering, and offsetting of receptacles and other wall penetrations shall be used to limit sound transmission. All interior walls shall extend up to the underside of structural deck. Walls surrounding Activity Rooms shall have a minimum Sound Transmission Class (STC) of 50. Walls surrounding the laundry room, offices, staff, and training, etc as well as walls between child activity rooms shall be full height with sound attenuation insulation batts.

### 1.8.2 Sound Absorption

Installation of sound absorption materials and other techniques shall be

used throughout the facility to reduce noise reverberation. Special attention shall be given to noise reduction in the Atrium and multipurpose room.

#### 1.9 PHYSICAL SECURITY

Conventional security measures, such as: door locking hardware, shall be incorporated into the facility design and development. See specific paragraphs in this section for additional security criteria.

### 1.10 ECONOMY AND VALUE OF BUILDING CONSTRUCTION

#### 1.10.1 Economy

All materials shall be readily available within the local area, as shall sufficient trades to construct the building. Special or unique forms of construction should avoided, where skilled workers within the local area are not readily available.

#### 1.10.2 Operations and Maintenance

Material selections shall be based upon reducing operation and maintenance costs. All materials shall be easy to clean and resist soiling. No material on the exterior of the building shall require field painting, except hollow metal doors and frames.

### 1.10.3 Life Cycle Cost

Material selection shall be based upon overall Life Cycle Cost to the Government.

### 1.11 TECHNICAL REQUIREMENTS

### 1.11.1 Exterior walls

The primary finish material for the exterior walls shall be face brick. Accents and window sills shall be cast stone. Some EIFS, Exterior Insulation and Finish System may be used above the lower roof line. Brick, and cast stone shall match the YAC in color and texture.

### 1.11.2 Miscellaneous Metals

### 1.11.2.1 Access Doors and Panels

Access doors and panels shall be flush type. Frames for access doors shall be fabricated of not lighter than 16 gauge steel with welded joints and finished with anchorage for securing into construction. Access doors shall be a minimum of 350 mm by 500 mm and of not lighter than 14 gauge steel, with stiffened edges, complete with attachments. Access doors shall be hinged to frame and provided with a flush face and a keyed operated latch. Exposed metal surfaces shall have a shop applied prime coat. Finished paint coat shall match surrounding surfaces. Panel shall be installed in unhabitable rooms (i.e., closets) and/or non-conspicuous locations.

#### 1.11.2.2 Louvers

Detailing, location and sizing of louvers in the exterior walls shall be coordinated with the cast stone trim, window and door locations and lines.

Louvers shall be factory finished. Force protection issues require that all intake air for the HVAC system be brought into the building from above a specific height. See mechanical requirements Section 01016

### 1.11.3 Roof Design

### 1.11.3.1 Structural Standing Seam Metal Roofing

The CDC shall have a Structural Standing Seam Metal roof that shall be of the same design and color as the roof on the YAC located adjacent to CDC site. Color shall match, even if it requires a custom color from the manufacturer. The standing seam roof shall meet the requirements of specification section 07416, Structural Standing Seam Metal Roofing. The roof shall meet the load, deflection and uplift requirements of the criteria listed in section 01015.

### 1.11.3.2 Canopy at Court Yard (Price Option)

A canopy approximately 11 500mm by 22 200mm shall be located between the CDC and the YAC, connecting the side exit of the CDC with the main entrance of the YAC. This canopy shall be formed of a steel frame with Standing Seam metal roofing. The canopy shall meet the load, deflection and uplift requirements of the criteria listed in section 01015. The canopy columns shall have brick veneer enclosures. The underside of the canopy structure shall be covered with a factory finished metal soffit to prevent birds from nesting in exposed framework. Lighting will be provided in the soffit of the canopy.

### 1.11.3.3 Roof Insulation

Roofing insulation shall be a polyisocyanurate type. A minimum aged "R" value of the roofing insulation shall be Rsi=5.28 (R=30), based upon a maximum Rsi=0.98 (R-5.56) per 25 mm of thickness. Therefore, the total roofing insulation thickness shall be a minimum 150 mm.

A single ply vapor barrier shall be installed between the roofing deck and the bottom of the roofing insulation. The thickness of the vapor barrier shall be in accordance with the roofing system standard thickness.

### 1.11.4 Sheet Metalwork, General

Contractor shall include a quality assurance plan which includes a checklist of points to be observed, prior to start of roofing work.

Fascia shall have "V" crimps and a stable substrate as required to prevent "oil-canning" effect.

### 1.11.5 Windows

### 1.11.5.1 Exterior Windows

Exterior windows shall have aluminum thermal break frames and insulated glazing as specified in UFGS Section 08810 GLASS & GLAZING. Window installation shall meet the followingDoD-StandardAntiterrorism force protection requirements: To ensure that the full strength of the laminated glazing is engaged, frames, mullions, and window hardware shall be designed to resist a static load of 7 kilopascals (1 lb per square in) applied to

the surface of the glazing. Frame and mullion deformations shall not exceed 1/160 of the unsupported member lengths. The glazing shall have a minimum frame bite of 9.5-mm (3/8-in) for structural glazed window systems and 25-mm (1-in) for window systems that are not structurally glazed. Frame connections to surrounding walls shall be designed to resist a combined loading consisting of a tension force of 356-kNg/cm (200 lbs/in) and a shear force of 13-kNg/cm (75 lbs/in). Alternatively, use frames that provide an equivalent level of performance.

#### 1.11.5.2 Interior Windows

Windows located in the interior walls of the facility shall be hollow metal frames. These windows shall have tempered, laminated glazing as specified in UFGS Section 08810 GLASS & GLAZING. Window frames shall be painted to match the door frames. Double window units are 1800mm X 1000mm and single units are 800mm X 1000mm. The top of the interior windows shall match the top of the interior door frames.

#### 1.11.6 Doors

### 1.11.6.1 Exterior Doors

Exterior personnel doors shall be insulated, heavy duty level 3, flush hollow metal doors in accordance with specification section 08110, Steel Doors and Frames, except the main entrance doors and the exit doors from the atrium to the court yard area between the CDC and the YAC. The main entrance doors and the doors to the courtyard exit and their vestibule doors from the interior of the building shall be aluminum storefront in accordance with Specification 08120, Aluminum Doors and Frames. Exterior doors and glazing shall meet the same force protection requirments as exterior windows.

### 1.11.6.2 Interior Doors

Interior doors shall be solid core wood in accordance with specification section 08210, Wood Doors. All interior doors, except those into single fixture toilet rooms shall have narrow lites. These shall be as long as practicable to allow views from child height. Frames for wood doors shall be hollow metal frames.

### 1.11.7 Hardware; Builder's (General Purpose)

### 1.11.7.1 Locks and Latchsets

All doors shall be lockable, except multiple fixture toilets and interior vestibule doors. Single fixture toilets shall have privacy locks that are operable from the out side with an emergency release. All closet doors shall be operable from the inside without use of a key. All keyed locks shall have removable lock cylinders. All doors shall have lever handles. The panic hardware exit devices on the exterior doors of vestibule 113 shall have alarmed, delay egress locks, with a keyed override.

#### 1.11.7.2 Lock Cylinders

Provide BEST cylinders, 7 pin, Kaba Peak keyway to match the existing Fort Riley grandmaster. Each lock shall be provided with 4 change keys

### 1.11.7.3 Lock Trim

The doors of this facilities shall have lever handles. All exterior doors shall have panic type hardware, except doors from storage, mechanical, electrical and communications rooms.

### 1.11.8 Keying

Locks and special key hardware shall be keyed to the Fort Riley Base master key system. The contractor shall provide construction cores. The Contractor shall meet with the Contracting Officer's Representative and the Base Locksmith prior to developing the keying schedule. A grand master keying system shall be provided for the building. All of the keys shall be keyed in one series, except the mechanical, electrical and communication equipment rooms. Locks for all mechanical, electrical, and communications equipment rooms shall be keyed to the existing Base utility keying system.

### 1.11.9 Auxiliary Hardware

All exterior doors shall have aluminum housed type weather seals.

All fire rated doors shall have compression type seal gasketing.

### 1.11.10 Finishes

Door hardware finish shall match satin stainless steel Type 630.

#### 1.11.11 Door Hardware

### 1.11.11.1 Hardware Requirements

Door hardware in fire-rated walls shall comply with NFPA and other applicable criteria.

### 1.11.11.2 Hardware Sets

The following hardware sets listed are the minimum functional hardware requirements for each door types. Additional hardware may be required for each door type than listed below.

### a. Exterior Steel Doors

(1) All single exterior personnel doors except storage rooms and electrical or communications rooms shall have the following hardware features:

Grade 1 hinges
Exit Device type 3
Overhead closer
Weatherstripping
Threshold
kickplate

The exterior door from Activity room 136 (storm shelter) shall have a 3 point locking/laching mechanism that meets the FEMA 361 requirements.

(2) All double exterior personnel doors shall have the following hardware features:

Grade 1 hinges Surface vertical rod exit devices Overhead closer (Both leafs)
Wall or Floor stops
Kick plate
Weatherstripping
Threshold

(3) All double exterior mechanical room, electrical room doors shall have the following hardware features:

Grade 1 hinges
Lockset (active leaf)
Overhead holder both leaves (grade 1)
2 Lever extension flush bolts(grade 1) (inactive leaf)
Weatherstripping
Astragal
Rain drips
Threshold

#### b. Interior Doors

(1)All single doors used in offices, janitor's closets, storage rooms, and activity rooms shall have the following hardware features:

Grade 1 hinges
Bored lockset (key locking capabilities - avoid self locking hardware.)
Overhead closer
Wall stops (with holder where appropriate)

(2) All single doors used public toilet rooms shall have the following hardware features:

Grade 1 hinges
Push Plate, elongated for both adult and child use
Pull with Plate, elongated for both adult and child use
Overhead closer
Wall stops (with holder where appropriate)
Kick plate

(3)All single doors used single toilet rooms shall have the following hardware features:

Grade 1 hinges
Privacy Lockset
Wall stops (with holder where appropriate)

(2) All double interior personnel doors to Multi-purpose room shall have the following hardware:

Grade 1 hinges Surface vertical rod exit devices Overhead closer (Both leafs) Wall or Floor stops Kick plates

(2) All double interior personnel doors to vestibules shall have the following hardware:

Grade 1 hinges
Push Pull bars on both sides, at adult and child height

Overhead closer (Both leafs) Wall or Floor stops Kick plates

### 1.11.12 Key Storage System

A recessed wall mounted key cabinet shall be provided in the Control counter area, and contain all additional keys for all areas of this building. Cabinet shall have the capacity to store a minimum of two keys for each room on an individual key hook. Key hooks shall be mounted on panels with sufficient distance between hooks that will allow easy identification and removal. Cabinet key panels shall be readily removable and capable to insert additional panels for expansion needs. Key cabinet shall have key locking capabilities. Cabinet door shall be a full height piano hinge.

### 1.11.13 Gypsum Wallboard

Predecorated gypsum board is not considered acceptable.

Exterior gypsum soffit board is not considered acceptable.

### 1.11.14 Exterior Signage

Two Building number signs and one building name sign shall be provided. These shall be located on the building as directed by the Contracting officer's Representative. Signage shall be as detailed on the Drawings.

### 1.11.15 Fire Extinguisher Cabinets

Fire extinguisher cabinets shall be fully recessed type with a flat metal door. Clear plastic bubble type door fronts are not acceptable. Fire extinguisher cabinets shall be located in accordance with NFPA Life Safety Code #101. Color of the cabinets shall match that of the wall.

- PART 2 PRODUCTS (Not Applicable)
- PART 3 EXECUTION (Not Applicable)
  - -- End of Section --

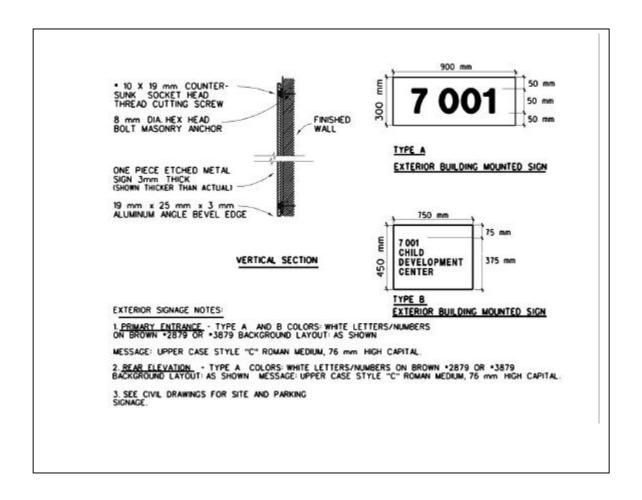
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## SECTION 01013

## **ATTACHMENTS**

### **BUILDING SIGNS:**

The contractor shall provide building signs as shown on the drawing below. Exact location shall be as directed by the Contracting Officer's Representative.



## BUILDING AREA ANALYSIS

## PROPOSED DESIGN

ROOM #	ROOM NAME	NET SM	DIMENSIONS	PERIMETER	CEILING	NET SF
101	Vestibule	6.10	2388x2400	9973	2500	65.7
102	Lobby	34.04	8021x10292	34246	2700	366.4
103	Gathering Area	37.21	6100x6100	24400	5400	400.4
104	Atrium	194.56	16388x9850	63778	Varies-3000	2094.2
105	Atium	131.69	2000x3050	53486	Varies-5400	1417.5
106	Atium	248.83	4000x3050	36589	Varies-3000	2678.4
107	Clerk/Reception	13.05	2925x4380	15105	2700	140.5
108	Isolation	4.59	2175x2100	8573	2700	49.4
109	TV Monitor Equip	4.69	2175x2155	8660	2700	50.5
110	Toilet (Isolation)	3.94	1875x2100	7949	2400	42.4
111	Toilet (Staff)	4.03	1875x2155	8046	2400	43.4
112	Staff Lounge	26.51	5915x5700	23212	2700	285.4
113	Vestibule	5.59	2100x2600	9543	2500	60.2
114	Training	12.74	3365x4075	14850	2700	137.1
115	Assist. Director	9.85	2915x3400	12600	2700	106.0
116	Director	18.35	3400x5400	17600	2700	197.5
117	Kitchen	47.29	5790x8155	27894	2700	509.0
118	Scullery	17.52	5790x3030	17640	2800	188.6
119	Freezer	7.38	2747x2685	10865	2450	79.4
120	Refrigerator	7.38	2747x2685	10865	2450	79.4
121	Dry Storage	12.37	3173x3900	14145	2700	133.1
122	Toilet male	24.60	9625x2800	26769	2700	264.8
123	Toilet female	24.60	9625x2800	26769	2700	264.8
124	Janitor	4.67	2100x2225	8650	2500	50.3
125	Comm-Doim	11.91	5700x2090	15590	varies	128.2
126	Storage	19.59	4000x5000	17939	2800	210.9
127	Laundry	11.21	4000x2825	13588	2700	120.7
128	Mechanical Room	94.71	5700x16725	44611	varies	1019.4
129	Electric Room	18.53	5700x3375	17907	varies	199.5
130	Storage	23.03	5700x4036	19482	varies	247.9
131	Multi-purpose	320.41	17800X18800	71600	OTS 7600	3448.9
132	Storage-Issue	69.54	5700x12700	35800	varies	748.5
133	Toilet Female	15.42	5700x2750	20070	2700	166.0

ROOM #	ROOM NAME	NET SM	BASIC DIMENSIONS	PERIMETER	CEILING	NET SF
134	Toilet Male	15.42	5700x2750	20070	2700	166.0
135	Art & Science	66.51	9800x7000	33600	2700	715.9
136	Performing Arts	65.67	9685x7000	33375	2700	706.6
137	Activity Room	63.28	6000x10900	33800	2700	39.0
138	Activity Room	63.28	6000x10900	33800	2700	681.1
139	Activity Room	76.74	7450x10900	36107	2700	826.0
140	Toilet Fem (child)	15.13	5465x2800	20028	2700	162.9
141	Toilet Male (child)	15.13	5465x2800	20028	2700	162.9
142	Activity Room	62.20	6700x9900	33205	2700	669.5
143	Homework Center	48.80	5150x9900	30100	2700	525.3
144	Computer Lab	48.80	5150x9900	30100	2700	525.3
145	Server Room	6.37	3400x1875	10546	2700	68.6
Total Net	Rooms	2033.26				19128.9
	Walls and Voids	127.57				1372.7
	GROSS BUILDING	2160.83				23259.0
	KTERIOR SPACES					
covered gathering-		34.11				183.6
Connection Canopy-		256.54				1380.2
front entrance-		3.41				36.7

NOTE: THE NET SM SHOWN FOR EACH SPACE IS THE MINIMUM SPACE REQUIRED. THE CONTRACTOR SHALL PROVIDE THIS INTERIOR NET SPACE WITH ANY STRUCTURAL SYSTEM OR FLOOR PLAN THE GROSS SHALL BE ADJUSTED AS NECESSARY.

#### SECTION 01015

### STRUCTURAL REQUIREMENTS

#### PART 1 STRUCTURAL

### 1.1 CODES AND REFERENCE PUBLICATIONS

US ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT

SDCC Kansas City District Structural Design

Controlling Criteria

FEDERAL EMERGENCY MANAGEMENT AGENCY

FEMA 361 Design and Construction Guidance for

Community Shelters. (July 2000)

FEMA 302 NEHRP Recommended Provisions for Seismic

Regulations for New Buildings and Other

Structures

U.S. ARMY CORPS OF ENGINEERS TECHNICAL INSTRUCTIONS

TI 809-02 Structural Design Criteria for Buildings

(Sep 1999)

TI 809-04 Seismic Design For Buildings (Jan 1999)

TI 809-07 Design of Cold-Formed Load Bearing Steel

Systems and Masonry Veneer/Steel Stud

Walls (Nov 1998)

AMERICAN CONCRETE INSTITUTE BUILDING CODE

ACI 318-99 Requirements for Structural Concrete and

Commentary (ACI 318R-99)

AMERICAN INSTITUTE OF STEEL CONSTRUCTION

AISC "Manual of Steel Construction -Load &

Resistance Factor Design" (Latest Edition)

STEEL DECK INSTITUTE

SDI Steel Roof Deck Design Manual (Steel Deck

Institute Publication, current edition)

STEEL JOIST INSTITUTE

SJI Standard Specification, Load Tables and

Weight Tables

AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD

ASCE 7-98 ASCE Standard, Minimum Design Loads for

Buildings and Other Structures

### U.S. Army Technical Manuals/Air Force Manuals

TM 5-809-3/AFM 88-3, Ch.3 Masonry Structural Design for Buildings (Oct 1992)

### 1.2 PROJECT DESCRIPTION AND REQUIREMENTS

The Child Development Center shall be a single story structure with floor, roof and exterior wall configurations as indicated on the attached architectural drawings. The building shall be structurally designed and configured by the Design/Build Contractor in accordance with the criteria and other requirements stated herein. The areas designated as "Tornado Shelters" in the Architectural drawings shall be designed and constructed in accordance with FEMA 361. The tornado shelter shall be structurally independent of the main structure and designed and constructed to withstand the high winds and the impact of windborne debris(missiles) during tornadoes. All structural calculations and drawings shall be checked and initialed as such by a registered engineer other than the original design engineer. Construction Documents (drawings and specifications) shall be sealed and signed by a Professional Registered engineer and licensed to perform work in the jurisdiction.

#### 1.3 DESIGN CRITERIA

The structural design shall fully comply with the provisions provided in Section 01290 "Kansas City District Structural Design Controlling Criteria (SDCC)" and with additional requirements and revisions contained herein. In case of conflict between this document (section 01015) and SDCC, section 01015 controls.

### 1.4 STRUCTURAL LOADING CRITERIA

Structural loading criteria shall be developed using the criteria sources and following the procedures indicated below. The Child Development Center shall be classified as a Category III facility for the purpose of calculating of live, wind and snow loads.

### 1.4.1 Roof Live Loads

### 1.4.1.1 Snow Load

Roof snow load, including additional loading due to snow drifting where appropriate, shall be calculated and applied in accordance with ASCE 7-98 using a ground snow load of 960 Pa (20 PSF).

#### 1.4.1.2 Rain on snow Loads

Rain loads shall be considered in accordance with ASCE 7-98.

### 1.4.1.3 Minimum Roof Live Load

Main Structure: A minimum roof live load of 960 Pa (20 PSF) applied in accordance with ASCE 7-98 shall be used as a loading condition for the roof independent of the calculated snow load.

Tornado Shelter: Tornado shelter roof shall be designed to support the collapse of the main structure roof and any micellaneous items ( Mechanical

equipment) from above. In addition the weight of any walls adjacent to the shelter and projecting above the shelter roof shall also be considered collapsing on top of the tornado shelter roof. A loading of full dead load of the roof, walls and the miscellaneous items should be used. A dynamic increase factor of 1.5 shall be used to account for the gravitational acceleration of falling debris. Minimum roof live load shall not be less than 1920 pa (40 psf).

#### 1.4.2 Floor Live Loads

Minimum uniformly distributed floor live loads shall be as listed below:

AREA	LIVE LOAD (Pa)
Mechanical/Electrical Rooms	7200 (150 PSF)
Kitchen	7200 (150 PSF)
Walkin freezer	7200 (150 PSF)
Child activity Rooms	7200 (100 PSF)
Public Areas and Corridors Serving Public Areas	s 4800 (100 PSF)
Light storage areas	6000 (125 PSF)
All Other Areas	4800 (100 PSF)

The floors shall be capable of supporting an  $8.9~\mathrm{kN}$  (2000 LBS) concentrated load applied over a 760 mm by 760 mm area positioned anywhere.

#### 1.4.3 Wind Loads

<u>Main Structure:</u> Wind loads shall be calculated in accordance with the procedures outlined in ASCE 7-98 using Exposure "C" and a Basic Wind Speed (3-Second Gust Speed) of 40 meters per second (90 mph). Wind loads for both the main wind-force resisting system and for components and cladding shall be considered.

<u>Tornado Shelter</u>: Wind loads shall be calculated in accordance with the procedures outlined in ASCE 7-98 using Exposure "C" and a Basic Wind Speed (3-Second Gust Speed) of 112 meters per second (250 mph). Method 2 - Analytical Procedure outlined in ASCE 7-98 shall be used to calculate the wind forces with the following parameters;

- a. Importance Factor I = 1.15
- b. Directionality Factor Kd = 1.0
- c. Internal Pressure Coefficient GCpi = + / 0.55

### 1.4.4 Seismic Loads

The Child Development Center shall be designed to withstand seismic loading in accordance with US Army Corps of Engineers TI 809-04. Seismic Parameters for Ft.Riley are as follows:

 $\rm S_S$  (Short Period Spectral Response Acceleration) = 0.2  $\rm S_1$  (1 Second Period Spectral Response Acceleration) = 0.06 Site Classification D. Seismic Use Group II.

### 1.4.5 Dead Loads

Minimum design dead loads for common building materials shall be obtained from ASCE 7-98. Equipment loads and loads for materials not listed in that publication can be obtained from other recognized sources. The calculated roof uniform dead loads include the weight of the roof system , mechanical, Sprinkler system, electrical and architectural items. In addition to the

calculated uniform roof dead loads, roof design must also includes contrated loads from mechanical equipments and other misellaneous items. The calculated total uniform loads for mechanical, electrical and sprinkler system shall not be less than 10 psf. When calculating netuplift loads using ASCE 7-98 load combinations, use 50% of the total uniform loads of mechanical, electrical and sprinkler loads.

### 1.4.6 Lateral Partition Loads

The minimum design wind pressure on interior partitions shall be 240 Pa (5 psf) normal to the partition.

### 1.4.7 Deflections

#### 1.4.7.1 Roofs

Deflections of structural members shall not be greater than allowed by the applicable material standard (ACI, AISC, etc.) and the limits set forth below. Deflection limits are needed to restrict damage to ceilings, partitions, other fragile nonstructural elements. Member deflection shall not exceed that permitted by TI-809-02 and TI 809-04. The deflection of structural members supporting roofs, due to dead load plus either live load, snow load, or wind load, shall not exceed 1/240 of the span; and due to only live load, snow load, or wind load, shall not exceed 1/360 of the span.

The above deflection criteria shall not apply to tornado shelter when ASCE 7-98 load combintions include wind loads.

1.4.7.2 Structural concrete Masonry walls, Non-load bearing concrete masonry partitions and Brick veneer;

The lateral deflection due to loads shall not exceed 1/600 of the span. The vertical deflection due to loads shall not exceed 1/600 of the span.

### 1.5 STRUCTURAL MATERIALS

Materials for structural elements shall be as indicated herein or on the attached architectural drawings. Where materials are not indicated, selection shall be at the Design/Build Contractor's discretion.

### 1.5.1 Structural Steel

### 1.5.1.1 Design

Structural steel shall be designed in accordance with AISC Specification for Structural Steel Buildings - LRFD. All structural steel members shall be designed by the structural engineer to support all applicable loads. Structural drawings shall clearly show all structural members, connections and their locations.

### 1.5.1.2 Connections

Types of connections shall be consistent with the design assumptions for the basic type of steel construction used. Connection design shall be the responsibility of the structural engineer for the Design/Build Contractor and shall not be delegated to the steel fabricator.

### 1.5.2 Steel Joists and Joist Girders

The design and selection of steel joists and joist girders shall be governed by the Steel Joist Institute (SJI) Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders. The net wind uplift requirements shall be clearly delineated on the drawings. Joists requiring special configurations or design to resist wind uplift and non-uniform loads shall be designated as such on the drawings and the required design loads indicated, per SJI recommendations. Joist end supports and anchorage to resist uplift shall be designed to accommodate the applied forces, including those resulting from wind and seismic activity.

### 1.5.3 Steel Decking

The design and selection of steel deck shall be in accordance with the provisions of the Steel Deck Institute (SDI) Design Manual. Minimum required section properties of deck sections shall be determined as prescribed by the appropriate Specifications of the SDI Design Manual, and shall be specified or indicated on the drawings. Where the steel deck is designed to function as a shear diaphragm, the design shall be in accordance with the provisions of the Steel Deck Institute (SDI) Diaphragm Design Manual and Army Corps of Engineers TI 809-04.

### 1.5.4 Masonry

### 1.5.4.1 Design

Masonry design shall be in accordance with US Army Corps of Engineers TM 5-809-3, TI 809-04 and FEMA 302. Reinforcement shall be sufficient to satisfy the calculated requirements for strength, shrinkage crack control, and seismic design. In no case shall reinforcement be less than the minimum seismic reinforcement required by TI 809-04 and FEMA 302. If masonry walls are used in conjunction with steel framing as non-load-bearing and non-shear-resisting elements, the connections between walls and the structural steel frames must be designed to allow vertical and horizontal frame deflection without transferring loads from steel to adjoining masonry walls. Use "Release 2.0 of the CADD details library by CADD/GIS Technology Center" for masonry details. Masonry details can be obtained from the following web address: http://tsc.wes.army.mil/products/cadd\_details/

### 1.5.4.2 Crack Control

Concrete masonry crack control measures comprised of masonry control joints, joint reinforcement, and bond beams shall be incorporated in the design of concrete masonry walls and partitions. Masonry Control Joints (MCJ) shall be judiciously located at spacings no greater than the maximums recommended in TM 5-809-3 and TI 809-04 and shall be shown on the Architectural elevations. Control joints shall not be placed closer than 600mm to openings.

### 1.5.5 Reinforced Concrete

### 1.5.5.1 Design

Reinforced concrete design shall be in accordance with ACI 318 and related current ACI publications which are applicable to the design, TI 809-02, and Army Corps of Engineers TI 809-04, as applicable. All concrete elements, including slabs-on-grade, shall be reinforced with temperature and shrinkage reinforcement as a minimum. Temperature reinforcement shall be

as recommended by ACI and TI 809-02, as appropriate.

### 1.5.5.2 Reinforcing Bar Usage Limitations

Grade  $420\,$  bars shall be used for concrete design. Minimum bar size shall be  $\#13M\,$  bars except for stirrups and ties which may be  $\#10M\,$  bars as per

#### 1.5.5.3 Concrete Joints

Control joints and contraction joints shall be located to reduce concrete cracking to a minimum. All exposed concrete joints shall be sealed with appropriate joint sealants.

#### 1.6 STRUCTURAL FRAMING SYSTEMS

#### 1.6.1 General

#### 1.6.1.1 Main Structure

The structural systems used for the Child Development Center shall be selected and designed by the Contractor. The Basic Seismic-Force-Resisting System shall conform to one of the types indicated in Table 7-1 of TI 809-04 and Table 5.2.2 of FEMA 302 subject to the limitations on height based on the Seismic Design Category indicated in the table. In case of conflict between Table 7-1 of TI809-04 and Table 5.2.2 of FEMA 302, values from Table 5.2.2 of FEMA 302 governs. The lateral load resisting system shall incorporate bracing, moment resisting frames, shear walls, diaphragms, or any combination thereof, provided the elements of the system are compatible with the attached architectural floor plan. Cold-formed light-gage metal framing (i.e., steel studs) systems shall be designed in accordance with TI 809-07. Wood framing construction, including wood roof trusses and wood roof framing, will not be permitted.

### 1.6.1.2 Tornado Shelter

The areas designated as "Tornado Shelters" in the Architectural drawings shall be designed and constructed in accordance with FEMA 361. The tornado shelter shall be structurally independent of the main structure and shall be be designed and constructed to withstand the high winds and the impact of windborne debris(missiles) during tornadoes. Following are the minimum requirements for construction of the Tornado Shelter:

- a. Reinforced concrete (roof and wall sections at least 8 inches thick) with at least #13M (#4) reinforcing steel at 10 inches on center (o.c.) both horizontally and vertically.
- b. Concrete masonry units 8-inch to 12-inch (walls) with at least #13M(#4) vertical reinforcing steel, fully grouted in each cell, and horizontal joint reinforcement as required by design. Roof of the Tornado shelter shall be minimum 8" thick reinforced concrete slab with minimum #13M(#4) reinforcing steel spaced at 10" oc in both direction.

### 1.6.1.3 Exterior covered Walkway (Price option)

Courtyard canopy between the main structure and the Youth activity center shall be structurally isolated from both the main structure and the Youth activity center. Main entrance canopy shall be structurally isolated from the main structure.

### 1.7 Roof Framing

The roof buildings shall slope as required for the type of roofing system used. The roof slope shall be accomplished by sloping of the structural framing members. The design of roof framing members shall include consideration of any concentrated loads from suspended mechanical and electrical equipment, including cable trays and HVAC units. The location and magnitude of suspended equipment loads shall be closely coordinated with the mechanical and electrical system designs.

### 1.8 Location of Structural Elements

Structural elements, including columns, bracing, shear walls and load-bearing walls shall be located as required by the structural design. The structural design and corresponding selection and location of structural elements shall be compatible with the floor plan, roof plan, elevations and other architectural drawings included in the attachments to this document. Columns shall be located in walls, and in such a manner that doorways or other accessways are not obstructed. Pilasters and in-wall columns which protrude into the room spaces are not allowed. Use of structural bracing shall be minimized, and shall be limited to locations where bracing is concealable at interior or exterior wall lines and does not obstruct windows, doors or other openings. Shear walls, where used, shall be located in coordination with architectural partition requirements.

#### 1.9 Interior/Exterior Walls

#### 1.9.1 Non-load bearing walls

Non-load-bearing walls shall be shall be laterally braced by the roof structure, and shall be connected in a manner which provides for vertical deflection of the roof structure without inducing vertical loads into the wall.

### 1.9.2 Shear Walls

Shear walls, where used, shall be constructed of cast-in-place reinforced concrete, reinforced concrete masonry units, or cold formed steel panels with diagonal steel straps at the Design/Build Contractor's choice. Shear walls shall be designed in accordance with ACI 318, TM 5-809-3, TI 809-07, FEMA 302 and Army Corps of Engineers TI 809-04.

### 1.10 FOUNDATION SYSTEMS

Foundation system shall be designed in accordance with Secton 01290 "Kansas City District Structural Controlling Criteria" and The Subsurface Investigation Report (section 01011). The components of the foundation system shall be constructed of reinforced concrete. The required 28-day compressive strength of concrete for the foundations shall be 27.6 MPa(4000 psi) minimum. All parts of the foundation system shall be designed to keep dead load footing pressures relatively uniform, in order to minimize differential settlements. The slabs-on-grade shall be reinforced slabs having a minimum thickness of 100mm with the actual thickness and design based on actual design loads. All slabs-on grade shall be underlain by a 6 mil vapor barrier over 150mm capillary water barrier. For addition requirements refer to section 01011.

#### 1.10.1 Design Parameters

Parameters used for foundation design, including the allowable soil bearing pressure, lateral earth pressure coefficients and design footing depths shall be in accordance with the Final Foundation Analysis report provided in Section 01011. The allowable soil bearing pressure represents the allowable soil stress at the base of footings in excess of that due to existing overburden. The weight of any fill added to the site above that required for frost protection shall be subtracted from the allowable soil bearing pressure to arrive at a net allowable pressure due to structural loads.

#### 1.10.2 Foundation Perimeter Insulation

Perimeter insulation shall be installed on the interior face of all exterior perimeter foundation walls. Insulation shall extend from the bottom of the floor slab down to top of footing or down to design frost depth.

### 1.10.3 Structural Stoops at Exterior Doorways

All exterior pedestrian doorways require structural stoops. Stoops shall have foundation walls extending down to frost depth and shall be rigidly attached to building foundation walls. Stoops shall have a 300mm layer of uncompacted fill placed directly beneath the stoop slab. The stoop slab shall be flush with the interior floor slab at the threshold and shall slope away from the building at 2% minimum slope.

### 1.11 CONCRETE FLOOR SLABS-ON-GRADE

Design of slabs shall be in accordance with TI 809-02 and the following detailed instructions:

#### 1.11.1 General

Slabs shall be designed as "floating slabs" without rigid edge support, and with lateral and vertical movement unrestrained. An isolation joint, consisting of a 13mm layer of expansion joint material, is required where slabs abut vertical surfaces. Slab thicknesses shall be selected in accordance with TI 809-02 or as required by design. Slabs shall be reinforced with a minimum of 0.18 percent steel based on cross sectional area. Crack control measures shall be incorporated in the slab design. Control joint details and spacings shall be as delineated in TI 809-02.

### 1.11.2 Interior Concrete Slabs-on-Grade

Interior slabs-on-grade shall be minimum 100mm thick placed over a 6 mil vapor barrier on top of a layer of crushed stone material with not less than 150mm compacted thickness. For additional requirements below slab-on-grade, refer to Section 01011. Where floor drains occur, the slab shall be sloped to drain. Maintain minimum slab thickness in the sloped area of the slab. All slab crack control joints, construction joints, isolation joints between edges of slabs and vertical surfaces, and any mechanical, plumbing or electrical penetrations through the floor slab shall be sealed with a flowable polyurethane caulk.

### 1.11.3 Interior Equipment Pads

Floor mounted mechanical and electrical equipment shall be installed on 150mm thick raised concrete housekeeping pads. The pads shall be

reinforced with at least the minimum temperature reinforcement required. The pads shall be sized 100mm larger all around than the piece of equipment furnished and all edges of the pad shall be chamfered. The equipment pad shall be anchored to the slab-on-grade with minimum #13M (#4) spaced at 12" oc along the perimeter of the concrete pad.

### 1.11.4 Equipment Vibration Isolation

All vibration producing mechanical and electrical equipment shall be mounted in such a manner as to prevent the transfer of vibrations to adjacent parts or areas of the building. If necessary for any large vibration producing equipment installed within the facility, the equipment will be supported on individual isolated foundations. The isolated foundation shall be separated from the building slab by a continuous 19mm expansion joint.

### 1.12 OTHER STRUCTURAL WORK

### 1.12.1 Standing Seam Roof Metal System

Standing seam metal roof shall comply with the requirements set forth in Technical Specification 07416 STRUCTURAL STANDING SEAM METAL ROOF (SSMR) SYSTEM and in SDCC. Final drawings will provide a list of loading criteria including roof live and wind uplift loads. A wind uplift diagram shall be used to identify wind uplift pressures and their locations on the roof. The component and cladding wind pressures for SSSMR shall be calculated based on 1 SQ.Meter tributory area.

### 1.12.2 Exterior Equipment Pads

Any exterior mechanical or electrical equipment shall be installed on concrete pads. The pads shall be a minimum of 200mm thick and shall be reinforced with at least the minimum temperature reinforcement required. The pads shall be sized 150mm larger all around than the piece of equipment furnished and all edges of the pad shall be chamfered. Design of exterior pads shall be coordinated with Mechanical and Electrical system designs.

PART 2 NOT USED

PART 3 NOT USED

-- End of Section --

#### SECTION 01019

#### 35 PERCENT DESIGN REQUIREMENTS

#### PART 1 35 PERCENT DESIGN SUBMITTALS

For general submittal requirements, See Section 01331 SUBMITTALS FOR DESIGN.

The 35 PERCENT design submittal consist of a design analysis, calculations, and drawings, and specifications as described in this section. This section contains the requirements for both a standard 35% submittal and additional requirements for a **fast track** submittal.

#### 1.1 SITE PLANNING

#### 1.1.1 Drawings

### 1.1.1.1 Location Plan and Vicinity Map

The Location Plan and Vicinity Map provided in the Request For Proposal (RFP) shall be updated as necessary and included in the drawings. The Location Plan shall include the Contractor's Access Route, Staging Area, and the Project Site.

### 1.1.1.2 Construction Phasing

The construction phasing plan will show how the Contractor will maintain access to the existing Youth Services Center (6:00 A.M. to 6:00 P.M. Monday thru Friday) for the duration of the contract. At all times access to parking for both the staff and customers shall be provided. In addition access for bus drop off in front of the existing facility shall be available. Phasing plan shall include any signage, temporary access drives, or temporary parking needed.

If the Contractor intends to FAST TRACK a final and complete phasing plan shall be provided as part of this submittal. Phasing shall be approved by the Contracting Officer prior to beginning of construction.

### 1.1.1.3 Removal Plan

The removal plan will show the existing physical features and condition of the site before construction. Each physical feature to be removed shall be hatched as indicated on the standard legend sheet, a legend on the removal plan, and properly noted: to be removed, to remain, or to be relocated. The Removal Plan shall be prepared at the same drawing scale and use the sheet boundaries as the Site Plan.

### 1.1.1.4 Site Plan

The Site Plan shall show all the site layout information necessary to field locate the building, parking lots, roads, sidewalks, and all other appurtenances to be constructed as part of the project. All major site work to be constructed will be dimensioned for size and location. The Site Plan will identify all site-related items such as: curbs, pavements, walks, bollards, trash enclosures, chiller units, electrical transformers locations, etc. in accordance with a standard legend sheet or with additional legends or notes. Drawing scales of between 1:250, 1:300, and

1:400 are acceptable scales for the Site Plan.

The Contractor shall provide a preliminary layout of the playground area at a scale of 1:50. The layout shall include dimensioning of each play area, all proposed playground equipment to be used, and type of playground surfaces.

The contractor shall provide a layout for the area designated as architectural paving (price option). This area is between the new and existing facilities and is located on the drawings provided with the RFP package. The basic contract will include concrete sidewalk in this location. In addition to the layouts the contractor will present details and manufacturer information on the proposed alternatives. Prior to proceeding to 60% the contractor will receive the users approval of the selected alternative.

The contractor shall consider the project's construction area, drawing legibility, number of sheets required in choosing the drawing scale. The Site Plan, prior to adding the dimensions and notes, should serve as the base sheet to other Plans, such as: Utilities Plan, Grading and Drainage Plans and Landscape Plan. Existing and proposed contours or utility lines shall not be shown on Site Plan. Physical features that will remain after the proposed construction has been completed shall be shown. This plan, or the Location Plan, will also show any free zones, construction limits, etc. Whenever the Site Plan occupies more than one sheet of drawings, a Key Plan shall be included. Additional plans showing specific areas of the site in smaller scales can be included if more detail is necessary.

### Site Plan shall be accepted prior to 60% design.

### 1.1.2 Specifications

Provide a listing by title and number of all Technical Specifications proposed for use in the site design.

#### 1.1.3 Design Analysis Narrative

Design analysis shall include the following:

### 1.1.3.1 Design References

Design references used in preparing the site design.

### 1.1.3.2 Basis, Specific Goals, Objectives and Priorities For Site Design

The Design Analysis should give the basis, specific goals, objectives and priorities for site design of the project. Identify, explain and document use of design criteria and how the design meets goals, objectives and priorities. Document pollution prevention measures and other environmental considerations made during design. The 35 percent Design Analysis must be approved and accepted before 60% Design.

### 1.2 CIVIL

### 1.2.1 Drawings

### 1.2.1.1 Grading and Drainage Plan

A preliminary grading and drainage plan showing the proposed layout of all

new culverts and roof drains shall be provided at the same scale as the site plan. Include layout for subdrains to be constructed for under drainage of the synthetic safety surfaces. Existing grading contours shall be indicated at 0.20 meter contour intervals. Tentative new grading contours shall be shown. Indicate proposed finished floor elevation of the new building. Provide location and description of benchmarks and indicate vertical and horizontal data.

#### 1.2.1.2 Grading and Plan (FAST TRACKING)

The following shall be submitted if the contractor intends to <u>Fast Track</u> the Construction:

A final grading and drainage plan shall be provided at the same scale as the site plan. New and existing grading contours shall be indicated at 0.25 m contour intervals. Indicate the finished floor elevation of all new buildings. Plans shall show the layout of the new and existing storm drainage and roof drainage systems. Uniform grades shall be labeled using slope arrows. Provide spot elevations at building corners, parking area corners, changes in grade, etc. Storm drainage lines and structures shall be labeled. The rim elevation of all manholes, curb inlets, and area inlets shall be indicated.

### 1.2.1.3 Grading Sections (FAST TRACING)

Provide as a minimum two grading sections (one east-west and the other north-south through the area of new grading work. These grading sections shall show new vs. existing grades, slopes of finished grades, finish floor elevations in the new building, and identification of main features such as parking areas, building, and walks.

### 1.2.1.4 Roof Drain and Culvert Profiles (FAST TRACKING)

Provide profiles of all new culverts showing new and existing grades, new and existing utilities, pavement sections in detail, pipe diameters and lengths, pipe slopes, invert elevations, etc. Class and gauge of all culvert pipes shall be provided. This information may also be included in a Storm Drain Schedule drawing. Profiles of roof drain runout lines may or may not be provided, at the Contractor's discretion. However, invert elevations, lengths and pipe diameters of these roof drains shall be called out on the drawings.

### 1.2.1.5 Drainage Structure Details (FAST TRACKING)

Provide typical details of all storm drainage structures.

#### 1.2.1.6 Pavement Details

Provide details of concrete curb and gutter, integral curb, typical pavement sections, typical sidewalk section, pavement utility cut details, and interface detail between new and existing pavement.

### 1.2.1.7 Erosion Control Details (FAST TRACKING)

Provide details of best management practices used to control erosion.

#### 1.2.2 Specifications

Provide complete edited specifications for all items to be FAST TRACKED.

Technical specifications shall be complete and fully coordinated with the drawings. All specification indexes shall be completely edited to reflect the paragraphs retained in the body of the specification. All references that have not been used in the body of the specification shall be edited from the technical specification.

If the contractor does not intend to fast track then a list of specifications shall be provided which are intended for final design.

### 1.2.3 Design Analysis Narrative

Design analysis shall include the following:

#### 1.2.3.1 References

Design references used in preparing the civil design.

### 1.2.3.2 Grading

A narrative of the grading design and criteria used.

### 1.2.3.3 Drainage

A narrative of the drainage design and criteria used. Include information on the storm drain pipe materials selected and their ability to withstand earth dead loads and live loads that will be imposed.

### 1.2.3.4 Storm Drainage System Calculations (PROVIDE IF FAST TRACKED)

Storm Drainage System Calculations shall include the following:

- a. Drainage area map showing boundaries of each drainage area and respective drain inlet or culvert.
  - b. Storm run-off calculations for each drainage area.
- c. Tabulation of capacities of new storm drains including: diameter and slope of storm drain pipes, design storm discharge and velocity for each storm drain pipe, maximum discharge capacity of each storm drain pipe, headwater depth of each culvert during design storm discharge.

### 1.2.5 Storm Water Pollution Prevention Plan (SWPPP) (FAST TRACKING)

See Section 01355, Environmental Protection, paragraph 1.7.2e and Section: 01356A, Storm Water Pollution Prevention Measures.

1.2.6 Basis, Specific Goals, Objectives and Priorities For Civil Design

The Design Analysis should give the basis for the civil design and should establish specific goals, objectives and priorities for civil design of the project. Identify, explain and document use of design criteria and how the design meets goals, objectives and priorities. Document pollution prevention measures and other environmental considerations made during design. The 35 percent Design Analysis must be approved and accepted before proceeding to 60% design.

### 1.3 GEOTECHNICAL

See Civil and Structural Design Requirement

### 1.4 WATER SUPPLY AND WASTEWATER

#### 1.4.1 Drawings

1.4.1.1 Water Distribution and Sewage Collection Systems Plans (including building services)

Provide all existing utilities and above ground features, including sizes and material types, which may pose as an obstacle (i.e., water, sewer, gas, electrical, etc.) on the basic site plan layout. Indicate existing pipe material and sizes where new lines connect along with the type of connection and elevations of connections. Provide all new water and sewer lines with sizes. This will include all new service lines, up to within the 1.5 meter building line. Locations of all new manholes, fire hydrants, valves (including PIV's), similar appurtenances, and connection points shall be provided. Show contours on plan view. Include stationing on both plan and profile sheets.

# 1.4.1.2 Water Distribution and Sewage Collection Systems Profiles (FAST TRACKING)

Profiles of all gravity sewers and waterlines shall be provided. Profiles may be omitted for short waterlines, unless necessary to assure adequate cover or avoid interference with other underground facilities. Indicate existing pipe material and sizes where new lines connect. Indicate type of connection and elevation. Include all interference elevations.

# 1.4.1.3 Water Distribution and Sewage Collection Systems Details (FAST TRACKING)

Appropriate water and sewer details shall be provided. The standard detail sheets will be furnished if required. For roadway pavement crossings, indicate installation method (open cut, boring, jacking, trenchless excavation, etc.). Include standard casing details. Provide all existing utilities and above ground features which may pose as an obstacle (i.e., water, sewer, gas, electrical, etc.) on the basic site plan layout. Exclude siting notes and dimensions from the plan. Provide all proposed new water and sewer lines with preliminary sizes. This shall include all new service lines up to the 1.5 meter building line. Show the proposed locations of all new manholes, fire hydrants, valves (including PIV's), and connection points.

### 1.4.2 Specifications

Provide complete edited specifications for all items to be FAST TRACKED. Technical specifications shall be complete and fully coordinated with the drawings. All specification indexes shall be completely edited to reflect the paragraphs retained in the body of the specification. All references that have not been used in the body of the specification shall be edited from the technical specification.

Specifications shall be coordinated with the plans and include all items. Provide special sections to cover those subjects for which no UFGS guide specifications are used or available. All UFGS guide specifications, to be provided, shall be in edited form showing all text to be deleted and added.

IF FAST TRACKING IS NOT INTENDED, the contractor shall submit a list of

### specifications intended for final design.

### 1.4.3 Design Analysis Narrative

Design analysis shall include the following:

#### 1.4.3.1 References

Provide design references used in preparing the water and wastewater design.

### 1.4.3.2 Water Supply and Distribution Systems

A narrative of the water supply and distribution systems design and applicable criteria used shall be provided. Include the peak and average domestic demands, the fire flow required and the available flow and residual pressures. A description of the water distribution system, a listing of allowable piping materials, hydrant flow test data and preliminary calculations necessary to support equipment, piping sizes, fire and domestic demands, etc., shall be provided.

## The following shall be submitted if the contractor is FAST TRACKING the construction:

A narrative of the water supply and distribution systems design and applicable criteria used shall be provided. Include the peak and average domestic demands, the fire flow required and the available flow and residual pressures. A description of the water distribution system, the piping materials to be constructed, hydrant flow test data and FINAL calculations necessary to support equipment, piping sizes, fire and domestic demands, etc., shall be provided.

### 1.4.3.3 Wastewater and Sewers

Based on existing information the sanitary sewer system in the vicinity of the proposed facility is assumed to be adequate to carry the flows expected to be generated by the new facility. A narrative of the wastewater supply design and applicable criteria used shall be provided. Include the preliminary calculations used to design the average and peak contributing flows. Field verify the available capacity and full flow capacity of the existing system to ensure that it will be adequate for the flows generated by the new facility. Include the available capacity and full flow capacity in the design analysis. Preliminary calculations necessary to support equipment and piping sizes and a listing of allowable piping materials shall be provided.

# The following shall be submitted if the contractor is FAST TRACKING the construction:

Based on existing information the sanitary sewer system in the vicinity of the proposed facility is assumed to be adequate to carry the flows expected to be generated by the new facility. A narrative of the wastewater supply design and applicable criteria used shall be provided. Include the final calculations used to design the average and peak contributing flows. Field verify the available capacity and full flow capacity of the existing system to ensure that it will be adequate for the flows generated by the new facility. Include the available capacity and full flow capacity in the design analysis. FINAL calculations necessary to support equipment and piping sizes and a listing of piping materials to be constructed.

### 1.5 Exterior Mechanical Distribution System

### 1.5.1 Design Analysis Narrative

The design analysis shall contain a narrative description and analysis of the exterior distribution system design. The basis and reasons for specific engineering decisions, special features, unusual requirements, etc., shall be explained or summarized as applicable. If it is necessary to deviate from criteria or standard practice, reasons shall also be included. Design statements shall be provided in sufficient detail to enable the reviewer to get a clear picture and understanding of all included work so that approval will be granted. Design analysis shall include the following:

### 1.5.1.1 References

Provide design references used in preparing the utility design.

#### 1.5.1.2 Exterior Gas Distribution

A narrative of the exterior gas distribution systems design and applicable criteria used shall be provided. Include the peak demands and equipment input ratings, length of pipe, initial pressure and the pressure loss. A description of the gas distribution system, a listing of allowable piping materials and preliminary calculations necessary to support equipment and piping sizes shall be provided.

### 1.5.1.3 Underground Chilled Water Piping

A narrative of the underground chilled water distribution systems design and applicable criteria used shall be provided. Include the flow rate, velocity and the rate of pressure loss. A description of the underground chilled water distribution system, a listing of allowable piping materials and preliminary calculations necessary to support equipment and piping sizes shall be provided.

### 1.5.2 Pipe Sizing Calculations

### 1.5.2.1 Exterior Gas Distribution

Provide site map, initial pressure, pressure drop, total input rating of all gas burning appliances within the facility and resultant pipe sizes as specified in NFPA 54 and section 01012, SITE WORK/CIVIL/UTILITIES.

### 1.5.2.2 Underground Chilled Water Piping

Pipe sizing and pump head calculations for the chilled & heating hot water, plumbing, gas piping systems as specified in Section 01016, MECHANICAL REQUIREMENTS shall be provided.

### 1.5.3 Exterior Utility Drawings

The following exterior utility drawings shall be provided for both exterior gas distribution system and for the exterior underground chilled water pipe between the mechanical equipment room and the chiller and fluid cooler:

### 1.5.3.1 Removal Plan

All existing exterior mechanical equipment and utilities which are to be

removed shall be indicated on the Site Removal Plan located in the civil section of the drawing package.

## 1.5.3.2 Utility Plan

All existing and new mechanical utilities shall be indicated on the Site Composite Utilities Plan located in the civil section of the drawing package. The location of existing exterior utilities shall be thoroughly checked and indicated on plans and profiles, thus preventing interference with new services. The utility drawing shall indicate all new utilities, including tie-in points, and existing utilities which are to be abandoned.

#### 1.5.4 SPECIFICATIONS

The submitted 35 percent technical guide specifications shall be updated, completely edited, and fully coordinated with the drawings to accurately and clearly identify the 60 percent product and installation requirements for the facility. Technical specifications shall be Unified Facilities Guide Specifications (UFGS), which shall be completely edited and fully coordinated with the drawings to accurately and clearly identify the product and installation requirements for the facility as specified in Section 02000, DIVISION 2: SITE WORK - OUTLINE SPECIFICATIONS. The UFGS specifications define the minimum requirements for items of equipment, materials, installation, training, operating and maintenance instructions, O&M manuals and testing that shall be provided for the facility. All UFGS specification indexes shall be completely edited to reflect the paragraphs retained in the body of the technical specification. All references that have not been used in the body of the technical specification shall be edited from the UFGS specification. Technical specifications shall be coordinated with the plans and include all items contained within the project. Provide special sections to cover those subjects for which no UFGS guide specification is available. Specific items of equipment identified in the UFGS specifications but not required for the facility shall be edited out. All edited UFGS guide specifications, to be provided, shall be in edited form showing all text to be deleted and added. Government conformance review is required for any specification addition or deletion.

### 1.5.4.1 Items NOT to be Fast Tracked

If fast tracking is not intended the contractor shall submit a list of specifications intended for final design.

### 1.5.4.2 Items to be Fast Tracked

Fully edited and coordinated technical guide specifications as specified above and in Section 02000, DIVISION 2: SITE WORK - OUTLINE SPECIFICATIONS shall be submitted, reviewed and approved to accurately and clearly identify the final product and installation requirements for every item to be installed before the design is complete and approved prior to the installation of the subject item.

### 1.6 ARCHITECTURAL SUBMITTAL

The 35% architectural design submittal confirms the building foot print, establishes the height of the building, typical wall sections and confirms the location of interior items requiring under slab utilities. Additionally, it confirms the exterior building materials and building elevations.

### 1.6.1 Drawings

The Thirty Five percent architectural drawing submittal shall consist of the overall floor plans, enlarged floor plans, all exterior elevations, several building sections showing the selected structural systems. A typical exterior wall section establishing the wall thickness and materials. An exterior wall section through multi-purpose room. The floor plans shall take into account the structural system selected. Location of all columns, bracing and and required bearing walls shall be shown for the structural system selected.

### 1.6.1.1 Floor Plans

Provide a double line Floor Plan, drawn at the largest scale practicable to include the entire building on a single sheet. See paragraph on Drawing Scales for plan scale requirements. Floor plans shall essentially be complete with the exception of large scale detail referencing. Floor plans shall be scaled double-line drawings showing the functional arrangement, porching, location of all openings and plumbing fixtures, all section cuts, wall types, all notes and leaders, all general notes, and all dimensions shall be completed. The plans shall indicate door swings, door numbers and window type. A north arrow shall be shown on each floor plan. The composite plan sheet shall include a gross area tabulation comparing the actual square meters with the RFP required square meters of the facility. Architect-Engineer suggestions for plan improvement shall be fully shown and justified. Include the following:

Overall, control, and door/ window opening dimensioning.
Match lines for combining individual portions of floor plans.
Room names and numbers.
Structural column or bay indicators.
Wall and building section cuts.
Door swings and door numbers.
Window types.
Area in square meters.
General notes.

Where major structural elements are included as parts of architectural detailing, do not indicate sizes. These elements should all be fully defined as part of the structural design documents. Major elements of mechanical and electrical equipment affecting room size or shape, shall be shown on the architectural plans to a practicable extent and coordinated with other respective disciplines. When applicable, Government-furnished, Contractor-installed, or Government-furnished and Government-installed items shall be shown as a dashed line.

## 1.6.1.2 Building Elevations

Provide all building elevations complete showing the appearance and architectural treatment. Elevations shall be dimensioned to show total height, and relation to grade. Critical elevations such as top of finish floor, top of steel, etc. shall be indicated. All notes for materials shall be included. See paragraph on Drawing Scales for Exterior Building Elevation scale requirements.

### 1.6.1.3 Building Sections

Building cross section and longitudinal sections shall be included to show general interior volumes, construction methods, and height of ceilings and partitions. Identify materials used and necessary dimensions. See paragraph on Drawing Scales for Building Section scale requirements. The level of finished floor shall be indicated as EL.= 10 000. Elevations for footings, etc., shall be related to this figure. Sea level elevations shall not be shown on the building drawings.

#### 1.6.1.4 Wall Sections

Drawings shall include typical exterior wall sections showing vertical control elevations and dimensions, with all materials labeled. The sections should normally be cut through doors, windows, and other critical wall section locations. Wall sections shall not be broken. Additional details shall be included when necessary to illustrate important or unusual features. All horizontal dimensions shall occur on the plans and vertical dimensions on the sections and elevations. See paragraph on Drawing Scales for Wall Section scale requirements.

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#### 1.6.1.5 Drawing Scales

	IIIIIIC
Composite Plans (Note 1)	Varies
Enlarged Floor Plans	1:100
Reflected Ceiling Plans	1:100
Detail Plans (Note 2)	1:20
Roof Plans	1:100
Exterior Elevations	Same scale as plan
Interior Elevations	1:20
Interior Toilet Elevations	1:20
Building Cross Sections	1:100 or 1:50
Wall Sections (Note 3)	1:10
Stair Sections	1:20
Details (Note 2)	1:5
Wall Types	1:10
Fire Protection Plans (Note 1)	Varies

### Notes:

- 1. Scale of composite plan shall be as required so that the entire facility is drawn on one sheet without break lines.
- 2. The goal of this requirement is that the details be large enough to show all fixtures, accessories, equipment, materials, manner of construction, clearances required for proper maintenance, and complete dimensions. Toilet rooms and Equipment rooms are examples of the kind of spaces which shall be drawn as a Detail Plan.

### 1.6.1.6 Legends

Standard architectural material symbols used on the drawings shall be provided as a separate architectural legend drawing located just in front of the architectural drawings in the set. Additional material symbols

should be added to the Legend Sheet as needed for the project.

### 1.6.1.7 North Arrows

North arrows shall be oriented the same direction on all plan sheets and by all disciplines; including site and civil drawings. Plan north shall be "up" or the left on the drawings. Indicate true north on composite plan drawings. North arrows shall be located approximately at the same location on all sheets.

### 1.6.1.8 Symbols

The Room and Door Numbering system shall be consistent. The standard symbols for Amendments (a triangular box) or Modifications (a type of circular box, see the chapter on Drafting Criteria) to the contract shall not be used for any other purpose, and care must be taken to avoid using even similar appearing but technically different symbols. Room numbering shall start at the main entrance and proceed clockwise around functional areas.

#### 1.6.1.9 Dimensions

When dimensioning, use arrowheads, not dots or slashes. Dimensions must be complete, accurate and fully coordinated. Do not edit dimensions when elements must be moved; Use the CADD systems automatic dimensioning system and relocate elements as required. Dimensions should be to points easily measurable in the construction, and should be laid out to eliminate refiguring in the field. Dimensions should be tied-in to column lines, etc., to facilitate checking. Plan dimensions for frame construction should be to face of stud (or sheathing) for exterior walls, to one face of stud for interior partitions, and to centerline of openings. For masonry construction, dimensions should be to one or both nominal faces of masonry and to jambs of openings.

### 1.6.2 Design Analysis Narrative

The Design Analysis shall be essentially complete with emphasis on the following:

### 1.6.2.1 Basic Criteria Statement

A statement indicating the basic criteria to be applied to the design including type of construction (noncombustible, etc.), category of construction (permanent, etc.), major fire protection and exit requirements, etc.

# 1.6.2.2 Description of Materials

A description of materials for all major building components and exterior finishes ascertaining their matching of existing. The description of materials must include type of exterior wall construction, window types, panel materials, etc. The description of finishes may be presented in schedule form. The written presentation must include the designer's reasons for selecting specific materials, architectural compatibility, and architectural treatment in all cases in which the reason for selection is

not obvious.

### 1.6.2.3 Design Analysis Calculations

- a. Basic Uniform Building Code building area calculations to determine type of construction and allowable building areas.
- b. Net room areas, occupant capacity and gross building areas.

(Categorize areas and capacities under the titles of "Operational Space Requirements", "Administrative Space Requirements", "Storage Space Requirements", and "Support Space Requirements".)

c. U-values for each wall, window, door, or roof type selected.

The minimum U-values must consider the life cycle cost of the operation of the building. The minimum insulation values are R=14 for opaque wall sections and r=30 for roof insulation.

#### 1.6.2.4 Additional Criteria/Clarification

A list of items on which additional criteria, clarification, or guidance is required.

# 1.6.3 Specifications

Architectural specifications are not required at this submittal.

#### 1.7 STRUCTURAL SYSTEM

Description of the structural system for original designs. A general description of the structural system for the building/structure including seismic considerations should be given with reasons for selection of the system used.

### 1.7.1 Roof and Floor System.

General method of framing and type of deck. Address the type, span to depth ratios and classification of the diaphragm. Address features which impact the layout of the structural framing, such as standing seam metal roofing.

### 1.7.2 Walls and Partitions

Describe composition and general range of thicknesses, seismic design , method of providing lateral support for the partitions, and location of load bearing and shear walls.

### 1.7.3 Foundation System

Foundation design data or assumptions and description of type of foundation

system to be used for the buildings and/or structures. For example, whether spread footings, continuous footings with concrete foundation walls, piling or drilled piers with concrete grade beams are used, existence of foundation tie beams, etc. Address concrete slab-on-grade floors, locations of capillary water barrier, and the general arrangement, approximate spacing and types of crack control joints.

## 1.7.4 Foundation System (Fast Tracking)

All the following structural requirements must be met by the Design/Build contractor prior to the construction of the foundations;

- a. The Contractor must have complete and approved final (100% completed) design analyses. The design analyses shall include complete detailed calculations showing the analysis and the design of the gravity and the lateral load resisting systems. All the review comments made by the Government must be resolved and incorporated.
- b. Locations of the gravity and the lateral load carrying elements and the foundation loads must be finalized prior to the design of foundations.
- c. Approved final drawings showing the locations of the vertical and lateral load resisting system including the redundancies provided for the lateral load resisting system.
- d. Approved foundation shop drawings showing the size and the spacing of the reinforcement.
- e. Approved final drawings showing Base plate design, Anchor bolt layout details and embedded items.
- f. Approved complete design, including reinforcing bar locations, for concrete masonry walls and reinforced concrete walls.

#### 1.8 DESIGN CRITERIA

A list of design criteria references such as U.S. Army Corps of Engineers Technical Instructions, Department of the Army Technical Manuals, ACI Standards, AISC Specifications, etc. which are applicable to the immediate project.

#### 1.8.1 DESIGN LOADS AND CALCULATIONS

A list of structural design loads and calculations comprised of, but not limited to the following:

Floor live loads, identifying each loading with usage and the room or space where used. For "heavy-duty" slab-on-grade floors subjected to wheel loads, identify the type and size of vehicles plus the maximum wheel or axle load. If only human occupancy loads are anticipated, so state. Truck loads for the design of the truck loading docks.

Calculations for determine building/structure design loads, including all dead loads, roof and floor(s) live loads. Determination of snow loads, including rain-on-snow, drift, and sliding snow loads as applicable.

Calculations of seismic/wind loads and main force resisting system.

Description of method of providing lateral stability for the proposed structural system to meet these seismic and/or wind loads with sufficient calculations to verify adequacy of the proposed method.

Calculations for typical roof, floor(s) and foundation members as applicable for the structural system proposed to be used

Structural connections used to fasten the major structural components of the basic structural system (both vertical and lateral) can either be narratively described or supported by sketches.

### 1.9 FOUNDATION DESIGN CRITERIA

Foundation design criteria, including the design depth for footings, allowable soil bearing pressure, equivalent fluid densities (or lateral earth pressure coefficients) for the design of earth retaining structures and building components, modulus of subgrade reaction, and any other pertinent data derived from the recommendations of the Preliminary Foundation Analysis, a copy of which shall be included as an **Appendix** to the design analysis.

### 1.10 DESIGN DATA

A list of structural materials, together with the stress grades an/or ASTM designations, as applicable, for timber, structural steel, concrete, and reinforcing steel; the series for steel joists; and identification of the proposed use of each material in each building structure, including allowable soil properties (with source notation).

### 1.11 DESCRIPTION OF MISCELLANEOUS/UNUSUAL DESIGN FEATURES

Those which might be controversial should be clearly presented in such a manner that definite approval can be given. Where applicable to the immediate project, include a description of each of the following design features:

The proposed system for resisting lateral forces (wind and earthquake) and transferring them to the ground, whether diaphragms, shear walls, braced or moment resisting frame, etc.

The proposed treatment of any unusual structural features or unique solutions to structural problems.

Measures taken to compensate for expansion/contraction and crack control.

Identification of any major vibrating elements and measures taken to isolate them.

### 1.12 Concept Design, Structural Drawings

show structural roof and floor framing by wall sections and partial framing plans in sufficient detail to indicate type of framing, estimated overall depth, spacing of all structural members and the types and locations of lateral load resisting system selected. Type of foundations and their approximate elevations shall be shown. The location of all columns must be shown. Proposed treatment of cantilever footings, combined footings, and all other complex details shall be shown on concept drawings. Structural drawings to be included in the concept submittal shall consist, as a minimum, the following:

If available, show the logs of exploratory drill holes and their location together with relative vertical elevation of building footings.

Foundation plan showing footings, piling, and column locations as applicable.

Floor and roof framing plans.
Typical framing elevations and cross section.

#### 1.13 MECHANICAL

Compliance with the design requirements for the building mechanical systems will be determined by a review of the submitted 35 percent design analysis, design calculations, drawings and specifications. Any conflicts in the design requirements or lack of thorough understanding of the nature and scope of work shall be identified and resolved prior to submittal of the 35 percent design.

#### 1.13.1 DESIGN ANALYSIS NARRATIVE

The narrative portion of the design analysis shall contain a narrative description and analysis for each of the mechanical portions of the design. The basis and reasons for specific engineering decisions, special features, unusual requirements, etc., shall be explained or summarized as applicable. If it is necessary to deviate from criteria or standard practice, reasons shall also be included. If alternatives were to be evaluated and selected by the designer, findings (pros and cons) and conclusions shall be included. Design statements shall be provided in sufficient detail to enable the reviewer to get a clear picture and understanding of all included work so that approval will be granted. Narrative shall be complete relative to scope and intended design approaches. The total scope projected to final design shall be outlined in a form that will be conveniently adapted, expanded, and detailed at the final design stage. The design analysis shall carry a complete narrative for every item and system covered in the design, and shall include, but not be limited to, the following:

### 1.13.1.1 Index

Provide a design analysis index identifying all main and sub-paragraph headings.

## 1.13.1.2 Project Summary

Provide a brief description of the facility and/or mechanical design objectives.

### 1.13.1.3 Applicable Criteria

A list of all applicable criteria used for basis of design.

## 1.13.1.4 Technical Specifications

Provide a list of Specifications that will be used for the project. When items are to be fast tracked, than all applicable specifications shall be fully edited and approved

#### 1.13.1.5 Design Conditions

A list of Mechanical design conditions including elevation, latitude, heating/cooling degree days, winter and summer outside design temperatures, inside design temperatures for all spaces, ventilation rates, occupancy rates, ground or make up water temperatures, etc. shall be provided.

### 1.13.1.6 System Descriptions

Provide a complete description of all building systems; include the designer's reasons for selecting specific materials, systems, etc. in which the reason for selection is not obvious. System descriptions shall be include, but not limited to, the following:

Plumbing Systems
Domestic Hot Water Heating Systems
Exterior Gas Distribution Systems
Interior Gas Piping Systems
HAVC Hot Water Heating Systems
Chilled Water Systems
Refrigeration Systems
Air Supply and Distribution Systems
Ventilation and Exhaust Systems
Exhaust Hoods
Cold Storage Refrigeration Systems
Food Service Equipment
Temperature Control Systems

### 1.13.1.7 Sustainable Design

The Design Analysis shall include the proposed sustainable design objectives with reference to mechanical systems and design work which will be attained as part of this project.

### 1.13.1.8 ENERGY CONSERVATION

Mechanical designs shall be economical, maintainable and energy conservative with full consideration given to the functional requirements and planned life of the facility. Each major item of proposed mechanical equipment shall have a net efficiency rating that is equal to or exceeds the net efficiency ratings of similar or equal equipment of the four manufacturers each having one of the four highest ratings. The Design Analysis shall include the proposed energy conservative objectives with reference to mechanical systems and design work which will be attained as part of this project.

### 1.13.2 CALCULATIONS

The design analysis calculations shall include the heating, cooling, and ventilation load calculations to determine the selection of the type and size of mechanical equipment to be used. Design calculations shall be provided in sufficient detail to enable the reviewer to get a clear understanding of all work to allow approval. Backup data shall be furnished to support basic design decisions related to sizing of major equipment and materials, performance of specific systems or equipment. Manufacturer's catalog data sheets shall be provided for each item of equipment selected. Calculations shall be performed by computerized procedures as specified in Section 01016, MECHANICAL REQUIREMENTS. Use of standardized charts, curves, tables, graphs shall not be acceptable for portions of required calculations in lieu of specific calculation

procedures, except when the charts, curves, tables, and/or graphs are part of the manufactures' proprietary published selection procedure/data to determine the output capacity, pressure drops, etc of the equipment being selected. Design calculations and computations shall be provided for all systems and shall include, but not limited to, the following:

#### 1.13.2.1 Index

Provide a design analysis index identifying all calculation items.

### 1.13.2.2 Equipment List

When complete equipment schedules are not included in the drawings, than a complete list of all mechanical, HVAC and plumbing equipment intended for design and construction shall be provided. For each piece of equipment, the list shall include an equipment tag , a description, a capacity, electrical requirements, dimensions and all clearances required for maintenance.

### 1.13.2.3 Building Thermal Properties

Provide calculations, as specified in Section 01016, MECHANICAL REQUIREMENTS, that demonstrate the surfaces to be constructed comply with the minimum "U" Values specified.

### 1.13.2.4 Room by Room Air-Conditioning Loads

Preliminary load calculations shall be performed by computerized procedures as specified in Section 01016, MECHANICAL REQUIREMENTS. A tabular summary of all psychometric calculations for each area or room shall be provided on each air distribution system. The summary shall include the dry bulb temperature, wet bulb temperature, relative humidity, enthalpy and dew point for the system air volume at coil entering, coil leaving and supply air conditions. The summary shall include the individual space sensible and latent loads and the resultant dry bulb temperature, relative humidity and dew point temperature based on the supply air volume provided at the supply air conditions listed for each space served by the distribution system. A tabular summary of all load calculations for each area or room, including ventilation loads, combustion air heating loads, etc., shall be provided. A copy of all input and output printouts shall be provided.

### 1.13.2.5 ASHRAE Standard 62 Mechanical Ventilation

For each area or room, which requires mechanical ventilation per ASHRAE standard 62; provide calculations as specified in Section 01016, MECHANICAL REQUIREMENTS, including louver selection and catalog fan data.

### 1.13.2.6 Kitchen Ventilation

For each area hood required for removal of grease or condensate; provide calculations including applicable criteria, exhaust and make up air volumes, minimum velocities, louver selection and catalog fan data.

#### 1.13.2.7 Mechanical Ventilation

For each area or room requiring mechanical ventilation for cooling; provide calculations similar to zone air-conditioning, louver selection, and catalog fan data.

#### 1.13.2.8 Toilets/Janitor Room Ventilation

Provide calculations, as specified in Section 01016, MECHANICAL REQUIREMENTS, catalog fan data, and louver selections, for each toilet area or group of toilet areas.

### 1.13.2.9 Building Air Balance

After all individual ventilation requirements specified above have been calculated, a summary showing each individual requirement and the overall combined effect on the facility as a whole shall be provided. The summary shall also include any corrective action required to maintain building pressurization as specified in Section 01016, MECHANICAL REQUIREMENTS.

### 1.13.2.10 Mechanical Items to be Fast Tracked

All final calculations as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS shall be submitted, reviewed and approved to accurately and clearly identify the final requirements for every piece of mechanical, HVAC and/or plumbing equipment to be installed before the full facility design is complete and approved prior to the installation of the subject item.

### 1.13.2.11 Site, Architectural and Structural Items to be Fast Tracked

Prior to the installation of any structural foundations the size of the mechanical room shall be verified and all piping to be installed below the slab on grade floor shall be fully designed and approved as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS. All final calculations as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS shall be submitted, reviewed and approved to accurately and clearly identify the final requirements, including all maintenance clearances, for every piece of mechanical, HVAC and/or plumbing equipment to be installed within the foot print of the mechanical room and all piping to be installed below the slab on grade floor. When grading or building surface is to be fast tracked, than all final calculations as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS shall be submitted, reviewed and approved to accurately and clearly identify the final requirements for every mechanical, HVAC and/or plumbing distribution system that penetrates the installed grading or surface prior to the installation of the subject grading or surface.

### 1.13.3 CONSTRUCTION DRAWINGS

The 35 percent design drawings shall be fully coordinated with the design analysis. Provide sufficient plans, sections and schedules shall be provided as necessary to define the required design intent and verify the required size of the mechanical equipment room. The designer shall show on the construction drawings all items which are referred to with phrases such as "as shown", "as indicated", "as detailed", etc within the UFGS Specifications. The construction drawings shall show, to scale, the actual equipment to be installed and all required clearances required for operation, routine maintenance, and replacement of minor and major components. The drawings shall not show any piping, ductwork or other

mechanical equipment to be exposed in finished spaces except where approved by the government. All exposed items shall be called out to the government for approval before proceeding. Access panels required for concealed items shall be shown on the construction drawings. The design and installation shall be fully coordinated with all other trades involved in the design and construction of the facility. Special care shall be given to National Electric Code requirements for clearance in front of and above electrical equipment. The construction drawing shall be produced to incorporate the requirements below into all drawings. Furthermore, the requirements below shall be repeated in the form of general notes on every mechanical (both HVAC and plumbing) construction drawing that shows a plan view. General notes shall include any mechanical general installation notes that may be required to clarify the construction intent that may not be readily apparent in the specifications or on the drawings. General notes may be provided on a separate sheet if space does not exist on the plan sheets. Sheet reference number sequencing shall be in accordance with the A/E/CCADD Standards Manual, ERDC/ITL TR-01-6. Submittal drawings shall include, but not limited to, the following:

### 1.13.3.1 Drawing Clarity

All drawings specified below, when reproduced at half scale, shall be clear and easily readable as determined by the Contracting Officer's Representative (COR).

### 1.13.3.2 Drawing Coordination

Show on all mechanical drawings specified below, all items of mechanical equipment and systems, to determine proper space allocation within the limits of the architectural, structural and electrical layout requirements. Plans, elevations, and sections shall be developed sufficiently to insure that major equipment items, piping, and ductwork cause no interference with architectural members, structural members, electrical equipment, etc.

### 1.13.3.3 Index Sheet

An index sheet identifying all mechanical drawings shall be provided, including those drawings anticipated to be provided in the 100 percent design submittal. Index shall include drawing design file numbers, drawing numbers, sheet numbers, and drawing descriptions.

### 1.13.3.4 Mechanical Items to be Fast Tracked

All final drawings including fully edited and coordinated control drawings as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in TI 810-11 shall be submitted, reviewed and approved to accurately and clearly identify the final requirements for every piece of mechanical, HVAC and/or plumbing system, equipment and the final control requirements for every piece of HVAC equipment to be installed before the full facility design is complete and approved prior to the installation of the subject item.

## 1.13.3.5 Site, Architectural and Structural Items to be Fast Tracked

Prior to the installation of any structural foundations the size of the mechanical room shall be verified and all piping to be installed below the slab on grade floor shall be fully designed and approved as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL

REQUIREMENTS. All final drawings as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS shall be submitted, reviewed and approved to accurately and clearly identify the final requirements, including all maintenance clearances, for every piece of mechanical, HVAC and/or plumbing equipment to be installed within the foot print of the mechanical room and below the slab on grade floor. When grading or building surface is to be fast tracked, than all final drawings as specified above, in section 01020, 60 PERCENT DESIGN REQUIREMENTS, in section 01021, 100 PERCENT DESIGN REQUIREMENTS and in section 01016, MECHANICAL REQUIREMENTS shall be submitted, reviewed and approved to accurately and clearly identify the final requirements for every mechanical, HVAC and/or plumbing distribution system that penetrates the installed grading or surface prior to the installation of the subject grading or surface.

## 1.14 Concept Design, Electrical Drawings

Provide one line diagram that indicates the size of the service and the number of panelboards required for the facility. Provide one line diagram of the communications and fire alarm system that indicates large components of the system. Provide site plan that indicates facility service size and route of conduit. All other electrical information should be included in a design narrative. Information shall include a detailed description of all systems included in the RFP. It shall include calculations for the facility service including demand factors and spare capacity. It shall include cut sheets of the type of major equipment that will be provided including light fixtures. Any electrical item that will be considered for fast tracking will be required to be designed to a 100% level for this submittal. All systems that are indirectly related to the fast tracking items shall be identified and designed to the 100% level.

PART 2 NOT USED

PART 3 NOT USED

-- End of Section --

#### SECTION 01332

### SUBMITTAL PROCEDURES FOR CONSTRUCTION (DESIGN-BUILD)

#### PART 1 GENERAL

#### 1.1 SUBMITTAL DEFINITIONS

The submittals described below are those required and further described in other sections of the specifications. Submittals required by the CONTRACT CLAUSES and other nontechnical parts of the contract are not included in this section.

Submittals required are identified by SD numbers and titles as follows:

- SD-01 Preconstruction Submittals
- SD-02 Shop Drawings
- SD-03 Product Data/Manufacturers' Instructions
- SD-04 Samples
- SD-05 Design Data
- SD-06 Test Reports
- SD-07 Certificates
- SD-10 Operation and Maintenance Data

### 1.2 SUBMITTAL CLASSIFICATION

## 1.2.1 Government Approved Construction Submittals

Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer's Representative. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

# 1.2.2 Government Reviewed Extension of Design

Government review Is required for extension of design construction submittals, used to define contract conformity, and for deviation from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the Designer of Record design documents do not Include enough detail to ascertain contract compliance. Government review is not required for extensions of design such as structural steel or reinforcement shop drawings.

## 1.2.3 Information Only

All submittals not for Government approval will be For Information Only (FIO). They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above. Any "information only" submittal found Not to comply with the Solicitations or Accepted Proposal shall be resubmitted as one requiring both Designer of Record and Government acceptance.

#### 1.3 GOVERNMENT REVIEWED OR "APPROVED" SUBMITTALS

The Contracting Officer's Representative (COR) conformance review or approval of submittals shall not be construed as a complete check, but will indicate only that the design, general method of construction, materials, detailing and other information appear to meet the Solicitation and Accepted Proposal. Government Review or approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Design and CQC requirements of this contract is responsible for design, dimensions, all design extensions, such as the design of adequate connections and details, etc., and the satisfactory construction of all work. After submittals have been reviewed for conformance or approved, as applicable, by the COR, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary. A \$500 Administrative Charge shall be assessed against the Contractor for each resubmittal for the purpose of substituting materials or equipment to cover the cost of the Government's review for conformance of said submittal.

#### 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the COR, obtain the Designer of Record's approval, when applicable, and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. Sentence Deleted. For each Contractor resubmittal, beyond one resubmittal, required by the Contracting Officer's

Representative to correct the submittal to conform to the Solicitation or Accepted Proposal, the Contracting Officer shall assess an Administrative Charge in the amount of \$500 per resubmittal to cover the Government's review of said resubmittal. If the Contractor considers any correction indicated by the Government on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the COR.

### 1.5 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made if all required Designer of Record or required Government approvals have not been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or Information Only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

PART 2 PRODUCTS (Not Applicable)

# PART 3 EXECUTION

### 3.1 GENERAL

The Contractor shall make submittals as required by the Specifications. The COR may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective

sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, the Contractor's Quality Control (CQC) representative, and the Designer of Record, as applicable, above shall check, approve and stamp, sign, and date each item, indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts, or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

### 3.2 SUBMITTAL REGISTER (ENG FORM 4288)

The Contractor's Designer(s) of Record shall develop a complete list submittals during design. The Designer of Record shall identify required submittals in the specifications. The list is to be used in preparing ENG Form 4288 Submittal Register or a computerized equivalent. The list is not all inclusive and additional submittals may be required by other parts of the contract. The contractor is required to complete ENG Form 4288 (including columns "a" through 'Y') and submit to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period. The submit dates and need dates used in the submittal register shall be coordinated with dates in the Contractor-prepared progress schedule. Updates to the submittal register showing the contractor action codes and actual dates with government action codes and actual dates shall be submitted monthly or until all submittals have been satisfactorily completed. When the progress schedule is revised, the submittal register shall also be revised and both submitted for approval.

### 3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time. (a minimum of thirty (30) calendar days exclusive of mailing time) shall be allowed and shown on the register for Government review or approval. No delay damages or time extensions will be allowed for time lost in late submittals.

#### 3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be for transmitting both Government-approved and Information Only submittals in accordance with the instructions on the reverse side of the form. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

#### 3.5 SUBMITTAL PROCEDURE

Submittals will be made as follows:

#### 3.5.1 Procedures

The Contractor shall submit for approval five (5) copies of all submittals to the Contractor's Designer of Record (CDOR). For all military projects an additional copy of all submittals (for information only) related to fire protection/detection systems shall be submitted to the Public Works Office for review by the Fire Chief. The mailing address for these submittals shall be obtained at the preconstruction conference. Items not to be submitted in quintuplicate, such as samples and test cylinders, shall be submitted accompanied by five (5) copies of ENG Form 4025.

### 3.5.1.1 Government Conformance Review Submittals

After the Contractor's Designer of Record (CDOR) review of each submittal is complete, the CDOR shall forward three copies of each submittal, including all For Information Only (FIO) submittals, to the Government for the Government's conformance review. This submittal shall include the accompanying ENG Form 4025 and any CDOR review comments. This submittal must be provided to the Government prior to the installation of the materials listed in the submittal. One copy shall be sent to the Engineering and Construction Division (EC) addressed as follows:

US Army Engineering District, Kansas City ATTN: CENWK-EC-D Federal Building, 601 East 12th Street Kansas City, Missouri 64106-2896

Two copy shall be sent to the Engineering and Construction Division (EC) addressed as follows:

Fort Riley Area Office Box 2189 Fort Riley, KA 66442

### 3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. As stated above, the Contractor's Designer of Record's approval is required for any proposed deviation. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

#### 3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved Submittal Register so the material needed date is not threatened.

### 3.7 GOVERNMENT CONFORMANCE REVIEW AND APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the

submittals will be identified as having received approval by being so stamped and dated. Copies of the submittal will be retained by the COR and copies of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be so identified and returned, as described above.

#### 3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the COR is not required on Information Only submittals. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the COR from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. Provide distribution to the Government in accordance with Paragraph 3.5.1.1, prior to the installation of any materials in the submittal.

#### 3.9 STAMPS

Stamps used by the Contractor's Designer of Record and the Contractor's designated Quality Control person on the submittal data to certify that the submittal meets contract requirements shall be similar to the following (use two stamps for submittals reviewed by both):

CONTRACTOR (Firm Name)

and/or atta	Approved Approved with corrections as noted on submittal data ached sheet(s).
SIGNATURE:	
TITLE:	Designer of Record
DATE:	
	CONTRACTOR (Firm Name)
	Approved Approved with corrections as noted on submittal data ached sheet(s).
SIGNATURE:	
TITLE:	Designer of Record
DATE:	

-- End of Section --

### SECTION 01355

### ENVIRONMENTAL PROTECTION

#### PART 1 GENERAL

#### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33	CFR 328	Definitions
40	CFR 68	Chemical Accident Prevention Provisions
40	CFR 260	Hazardous Waste Management System: General
40	CFR 261	Identification and Listing of Hazardous Waste
40	CFR 262	Standards Applicable to Generators of Hazardous Waste
40	CFR 279	Standards for the Management of Used Oil
40	CFR 302	Designation, Reportable Quantities, and Notification
40	CFR 355	Emergency Planning and Notification
49	CFR 171 - 178	Hazardous Materials Regulations

# U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps on Engineers Safety and Health Requirements Manual
WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

#### 1.2 DEFINITIONS

# 1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

### 1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

### 1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

## 1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

#### 1.2.5 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

#### 1.2.6 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

### 1.2.7 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

## 1.2.8 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

#### 1.2.9 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

### 1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

#### 1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

#### 1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

### 1.6 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals not having a "GA" designation are for information only. When used, a designation following the "GA" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Environmental Protection Plan; GA-RE.

The Environmental Protection Plan.

### 1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor

considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

## 1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

#### 1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

- i. Drawing showing the location of borrow areas.
- j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:
  - 1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer and the local Fire Department in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.
  - 2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
  - 3. Training requirements for Contractor's personnel and methods of accomplishing the training.
  - 4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
  - 5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
  - 6. The methods and procedures to be used for expeditious contaminant cleanup.
- k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction. The Contractor shall attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. The report shall be submitted on the first working day after the first quarter that non-hazardous solid waste has been disposed and/or diverted and shall be for the previous quarter (e.g. the first working day of January, April, July, and October). The report shall indicate the total amount of waste generated and total amount of waste diverted in cubic meters or tons along with the percent that was diverted.
- 1. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to

participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.

- m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- n. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.
- o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.
- p. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.
- q. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (i.e. pounds of active ingredient applied), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, Regional and Local pest management record keeping and reporting requirements as well as any additional specific requirements.

## 1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached, as an appendix, to the Environmental Protection Plan.

### 1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

### 1.9 SPECIAL ENVIRONMENTAL REQUIREMENTS

The Contractor shall comply with the special environmental requirements included at the end of this section.

### 1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer, and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

### 1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

### PART 2 PRODUCTS (NOT USED)

### PART 3 EXECUTION

### 3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

The Contractor shall be responsible for obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

#### 3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

#### 3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

## 3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

### 3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations shall be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as indicated on the drawings. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. Any temporary measures shall be removed after the area has been stabilized.

### 3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and

temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

#### 3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

### 3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractor shall comply with the State of Kansas water quality standards and anti-degradation provisions.

## 3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

### 3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands. The Contractor shall be responsible for the protection of wetlands shown on the drawings in accordance with paragraph ENVIRONMENTAL PERMITS, REVIEWS, AND APPROVALS. Authorization to enter specific wetlands identified shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries.

### 3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

### 3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded

or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

#### 3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

#### 3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with the provisions of the State of Kansas rules.

#### 3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

### 3.5.1 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

### 3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 150 mm of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

#### 3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The

Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations. The Contractor shall transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

### 3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site shall be accordance with all Federal, State, and local laws and regulations.

#### 3.5.5 Waste Water

Disposal of waste water shall be as specified below.

- a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water by collecting and placing it in a retention pond where suspended material can be settled out and/or the water can evaporate to separate pollutants from the water. The site for the retention pond shall be coordinated and approved with the Contracting Officer. The residue left in the pond prior to completion of the project shall be removed, tested, and disposed off-Government property in accordance with Federal, State, and local laws and regulations. The area shall be backfilled to the original grade, top-soiled and seeded/sodded.
- b. For discharge of ground water, the Contractor shall surface discharge in accordance with all Federal, State, and local laws and regulations.
- c. Water generated from the flushing of lines after hydrostatic testing shall be land applied in accordance with all Federal, State, and local laws and regulations for land application.

## 3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

### 3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

#### 3.8 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

### 3.9 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

### 3.10 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

### 3.11 MILITARY MUNITIONS

In the event the Contractor discovers or uncovers military munitions as defined in 40 CFR 260, the Contractor shall immediately stop work in that area and immediately inform the Contracting Officer.

### 3.12 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands,

and endangered species and their habitat that are known to be in the area.

### 3.13 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --

#### SECTION 11000

### DIVISION 11: EQUIPMENT - OUTLINE SPECIFICATIONS

### PART 1 GENERAL

### 1.1 GENERAL REQUIREMENTS

#### Contractor Edited Guide Specifications 1.1.1

The contractor shall edit and provide the following UFGS guide specifications for Division 11: EQUIPMENT:

Section 11400A, KITCHEN EQUIPMENT

#### Government Edited Specifications 1.1.2

The contractor shall incorporate the following government-supplied, fully edited specification sectios as part of the project design:

Section 11480, ATHLETIC WALL PADS

#### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

# AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 167	(1999) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
ASTM A 240	(2000) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip for Pressure Vessels

### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 96 (1998) Ventilation Control and Fire Protection of Commercial Cooking Equipment

> SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA HVAC Duct Const Stds (1995; Addenda Nov 1997) HVAC Duct Construction Standards - Metal and Flexible

UNDERWRITERS LABORATORIES (UL)

UL 1046 (1979) Grease Filters for Exhaust Ducts UL 710

(1995; Rev thru Apr 1999) Exhaust Hoods for Commercial Cooking Equipment

### 1.3 SECTION 11400A, KITCHEN EQUIPMENT

The contractor edited specification section shall include the material physical characteristics, performance, fabrication, and installation criteria listed below for each equipment item.

## 1.3.1 Equipment Identification

Reference to item numbers listed in parentheses '()' after each equipment item type in this specification are provided to cross-reference to the government expanded kitchen plan and equipment layout, Drawing Sheet Nos. A8.1 and A8.2.

#### 1.3.2 Source Selection

Manufacturers and model numbers for contractor supplied equipment shown in this document are provided to indicate minimum acceptable quality, performance, and function. They also indicate acceptable dimensions with respect to the equipment layout shown on the drawings. They are not intended to limit selection from other manufacturers provided they meet the criteria indicated.

### 1.3.2.1 Government Furnished and Installed Equipment

The contractor shall supply all necessary utility requirements and connectors to include gas, water, and electricity in locations as shown on the drawings for government furnished and installed kitchen equipment as follows:

- A. Mobile Food Warming Carts (Item A) existing. Contractor shall take measurements and verify utility requirements for the carts to insure proper fit and function for location(s) shown on the Contract floor plans.
- B. Undercounter Refrigerator (Item B) Reference Attachment No. 7.
- C. Range (Item C) Reference Attachment No. 8.
- D. Griddle (Item D) Reference Attachment No. 9.
- E. Double-Stack Convection Oven (Item E) Reference Attachment No. 10.
- F. Holding Cabinet (Item F) Reference Attachment 12.
- F. Ice Machine (Item G) Reference Attachment No. 11.

Manufacturers and model numbers are provided for preliminary design purposes. Exact manufacturer, model number, and specifications for all government furnished, government installed equipment shall be verified by the Contractor through the Government Contract Representative before finalizing the design.

### 1.3.3 Mechanical and Electrical Connections

Equipment requiring mechanical and/or electrical connections shall be coordinated with the appropriate mechanical and electrical specifications and drawings to include specification Section 01016 MECHANICAL REQUIREMENTS, Section 15000, DIVISION 15000: MECHANICAL - OUTLINE SPECIFICATIONS, Section 01017, ELECTRICAL REQUIREMENTS, and Section 16000, DIVISION 16000, ELECTRICAL - OUTLINE SPECIFICATIONS.

#### 1.3.3.1 Backflow Preventors

Backflow preventors shall be provided wherever the possibility a cross-connect or interconnect between a potable water supply and any source of non-potable water or other contaminant could result in contaminating the potable water. Backflow preventors shall be as specified in Section 15000: DIVISION 15400A, PLUMBING, GENERAL PURPOSE.

#### 1.3.3.2 Recessed Floor Sinks

Floor sinks, recessed into the floor slab, shall be provided at all equipment drains, including the walk-in freezer and refrigerator units, and indirect waste unless otherwise noted. Floor sinks shall be as specified in Section 15000: DIVISION 15400A, PLUMBING, GENERAL PURPOSE.

#### 1.3.4 Fastening Devices

Fastening devices between equipment components, and to the floor and/or walls shall be of the same material as the metal being joined when joined pieces are of a similar material. Stainless steel fasteners shall be used whenever one of the materials is stainless steel.

# 1.3.5 Walk-In Freezer and Refrigerator (ITEM NOS. 1 AND 2)

# 1.3.5.1 General Description and Requirements

Walk-in units shall be composed of pre-fabricated, metal-clad, polyurethane-insulated panels and components to provide a self-contained unit composed of walls, ceiling, and floor equal in performance and specifications to units manufactured by W. A. Brown & Sons, Inc. Units shall be to custom fabricated to dimensions, configurations, and locations as shown on the government drawings. Finished ceiling height from the raised floor shall be a minimum of 2400 mm. Units shall be constructed in accordance with UL and NSF standards and shall bear their seals. Reference Attachment No.1 for manufacturers literature regarding this item.

### 1.3.5.2 Material and Performance Criteria

The walk-in freezer and refrigerator units shall include the following minimum requirements:

- A.  $\underline{\text{Panels}}$ . Panels shall be 102 mm thick consisting of precision roll formed inner and outer metal pans separated by foamed-in-place rigid urethane insulation with tongue-and-groove edges.
  - 1) Panel edges shall have foamed-in-place flexible vinyl gaskets without glue or staples used for attachment.
  - 2) Panels shall be attached to each other by the use of a minimum of 3 cam-type locking assemblies formed-in-place a the time of fabrication on the interior panel face to include flush,

stainless steel plugs for wrench holes.

- 3) Panel insulation shall have a flame spread rating of 25 or less in accordance with ASTM E-84 and certified with a UL label.
- 4) Thermal conductivity factor (K) shall not exceed 0.02 watts per meter, per degree kelvin.
- 5) Overall coefficient of heat transfer (U-factor) shall not be more than .187 watts per square meter, per degree kelvin for 100 mm walls.
- 6) The insulation R-factor shall have a value of R-5.28 square meter, degree kelvin per watt.
- 7) All interior wall, ceiling, floor, and exposed exterior wall panel surfaces shall be  $0.8\ mm$ , type  $304\ stainless$  steel with a No. 4 finish.
- B.  $\underline{\text{Doors}}$ . Doors shall be flush, located, and hinged as shown on the RFP  $\underline{\text{drawings}}$ .
  - 1) Door face construction and finish shall match the wall panels.
  - 2) Door opening shall be 914 mm wide by 2134 mm high.
  - 3) Door hardware shall be heavy-duty type in brushed chrome finish consisting of 3 cam lift hinges, latch, and an OSHA-approved, inside safety release handle.
  - 4) Door shall be fitted with a minimum 305 mm square, triple pane, view port with heated glass and frame.
  - 5) Doors and door jambs shall utilize a vinyl gasket with magnetic core. Door bottom shall have a flexible double wiper gasket.
  - 6) Door panel shall be equipped with a digital thermometer, light switch with neon pilot light, and positive door closer on the exterior face.
  - 7) Door stops shall be provided.
  - 8) A pressure release vent shall be provided for the freezer.
  - 9) Door jambs shall be equipped with perimeter anti-condensate electric heater and fabricated of RFP for high-impact resistance.
  - 10) A heavy-duty 14 gauge C-channel of "ADDISON POWER H BRACE" style construction shall be foamed in place around entire door opening to secure hardware and prevent warping and racking.
- C. <u>Floor Panels</u>. Urethane-filled floor panels shall be 108 mm thick, formed from 24-gauge galvanized steel and shall include a 2.54 mm thick aluminum treadplate top surface. Construction shall withstand a uniformly distributed load of 3662kg per square meter.
- D. <u>Thresholds</u>. Threshold from building floor to raised refrigerator floor shall incorporate an interior/exterior ramp with anti-skid

strips. Ramp length shall be evenly distributed between the interior and exterior of the walk-in unit.

- E. <u>Lighting</u>. Each walk-in unit shall include interior, ceiling mounted, incandescent lighting capable of providing a minimum 2 watts per square foot distributed evenly light. Fixture shall be furnished with a 100W bulb and a coated shatterproof globe with wire cage. The fixture shall be field wired with conduit and wiring extended on the top exterior of the walk-in unit and connected to a thru-ceiling junction box. All electrical penetrations shall be sealed.
- F. <u>Trim Strips</u>. Installation shall include 22-gauge stainless steel trim strips to close the gap between the walk-in unit and building walls and ceiling. Trim strips shall extend from floor to ceiling and wall-to-wall with no visible fasteners.
- G. <u>Emergency System</u>. Each walk-in unit shall include an emergency signal system that consists of a buzzer alarm on the exterior of the refrigerator unit that can be activated from inside both units.

#### 1.3.6 Refrigerator/Freezer/Dry Storage Shelving Units (ITEM NO. 3)

#### 1.3.6.1 General Description and Requirements

The walk-in refrigerator, walk-in freezer, and dry storage room shall include shelving units. All shelving components to include posts, shelves, shelf supports, and hardware shall be Type 304 stainless steel. Construction shall be in accordance with the latest requirements of NSF Std. No. 2 and shall bear the NSF label.Units shall be securely fastened to the floor, walls, and ceiling as necessary to provide a completely stable installation and eliminate any possibility of tipping. Shelving units shall be custom fabricated to lengths and in locations as shown on the drawings.

#### 1.3.6.2 Material and Performance Criteria

The shelving units shall include the following minimum requirements:

- A. Units shall be approved by the manufacturer for use in refrigerated environment.
- B. Unit lengths shall be standard and/or customized in combinations and quantities as necessary to provide the entire overall lengths shown on the government drawings.
- C. All shelving units shall be 457 mm deep.
- D. Shelving units shall be floor to ceiling models with shelves adjustable in a maximum of 50 mm increments.
- E. <u>Shelves</u>. Shelves shall be fabricated in an open wire configuration. Solid stainless steel wire rods and cross supports shall be of a size sufficient, and with support brackets in quantities and locations, to support a minimum of 2.1 Kg per square meter without noticeable deflection.
  - 1) Each unit shall include a minimum of 4 shelves spanning the entire width of the unit.

2) Maximum clearance between wire rods shall be 25 mm.

#### 1.3.7 Condensing Unit (ITEM NO. 4)

#### 1.3.7.1 Material and Performance Criteria

Each walk-in shall have a condensing/evaporation unit and shall be from the same manufacturer as the walk-in units they will serve. Units shall be located on a concrete pad on the exterior of the building. Units shall be sized in accordance with the volume of space to be conditioned and the temperatures to be achieved.

#### 1.3.8 Countertop Units (ITEM NOS. 5, 6, 7, 8, 9, AND 10)

#### 1.3.8.1 General Description and Requirements

Each unit shall consist of a countertop, integral back and side splashes, leg assemblies, framing supports, under-counter shelving surfaces, gussets, and mounting hardware. All components shall be stainless steel and shall be nonmagnetic, ASTM A 167 or ASTM A 240: 18-8, 300 Series, austenitic, polished No. 3 or brushed No. 4 finish on all exposed surfaces. Construction of all components shall be in accordance with the latest requirements NSF Std. No. 2 and shall bear the NSF label.

#### 1.3.8.2 Material and Performance Criteria

The countertop units and their components shall include the following minimum requirements:

- A. Countertops: Countertops shall be custom fabricated to dimensions as shown on the drawings or approved similar layout, constructed of 14 gauge stainless steel (unless otherwise noted) with all seams and corners welded, ground smooth, and polished. All countertop free edges of the countertop shall be formed in one of the following methods:
  - 1) Countertop Item Nos. 5, 6, 7, and 8. All front edges shall utilize a "turned down" profile consisting of 51 mm at 90 degrees on a with a 19 mm tight hem at the bottom. Free edges shall be rounded on a 19 mm radius.
  - 2) Countertop Item Nos. 9 and 10. All front and side edges shall utilize a "rolled rim" profile consisting of an integral edge coved up 51 mm with 38 mm wide rim rolled 180 degrees and turned down to counter top 102 mm. Edges shall be hemmed 19 mm and corners bullnosed.
- B. Back and Side Splashes: All stainless steel countertops shall have an integral coved backsplash and shall be formed to one of the following profiles:
  - 1) Countertop Item Nos. 5, 6, 7, and 8. Coved up 152 mm at 90 degrees on a 16 mm radius and sloped back 64mm at the top on a 45 degree angle. Turned down 25 mm at 135 degree angle at the rear of the splash with ends closed to the bottom of the top turn down. Splash turn down shall be secured to wall with 102 mm long, 14 gauge stainless steel "zee" clips anchored to the wall, 914 mm on center. Side splashes shall match backsplash but be 51 mm in height.

- 2) Countertop Item Nos. 9 and 10. Coved up 254 mm and sloped back 64 mm at the top on a 45 degree angle. Turned down 25 mm at 135 degree angle at the rear of the splash with ends closed to the bottom of the top turn down. Splash turn down shall be secured to wall with 102 mm long, 14 gauge stainless steel "zee" clips anchored to the wall, 914 mm on center. Side splashes shall match backsplash in height.
- C. Under Counter Shelving: All under counter space shall be utilized to the maximum extent possible for storage incorporating a single shelf the full width of the countertop. Additional criteria and requirements are as follows:
  - 1) Under counter shelving shall be constructed of 16 gauge stainless steel with all front and side edges turned down 38 mm at 90 degrees with a 19 mm tight hem at the bottom. Back of shelf shall be turned up 102 mm with a 19 mm coved radius.
  - 2) Shelving corners shall be notched a full 90 degrees and welded from underside to completely fill the gap, ground and polished.
  - 3) Undershelf shall be braced with a minimum 25 mm by 102 mm, 14 gauge stainless steel channel at longitudinal centerline and between each intermediate pair of legs.
- D. Framing & Support: Framing support components shall be fabricated from 25mm by 25 mm 12 gauge stainless steel. Intermediate supports shall be provided 610 mm O.C. throughout the length of the countertop.
- E. Sound Deadening: All countertops shall utilize a 13 mm wide rope sealant positioned continuously between all contact surfaces of the frame members and the underside of the countertop for sound-deadening.
- F. Leg Assemblies: Legs and cross rails shall be of 16 gauge, 41 mm OD stainless steel tubing. Legs shall be continuously welded to gussets, channels, or angles as specified. In addition, leg assemblies shall:
  - 1) Feet shall be sanitary, die-stamped stainless steel bullet-shaped, fully enclosed and shall provide a 25 mm adjustment without threads being exposed. Bottom of legs shall be finished and overlapped stem to provide a sanitary, closed fitting.
  - 2) Feet for free-standing fixtures requiring utility connections shall be as above except with a flanged plate at the bottom which shall be anchored to the floor with noncorrosive bolts.

#### 1.3.9 Work Sinks (ITEM NO. 11)

#### 1.3.9.1 General Requirements

Unless otherwise noted all work sinks within countertops shall be to dimensioned as shown on the government drawings and conform to the applicable requirements of NSF Std 2.

- A. Material and Performance Criteria: Unless otherwise noted, additional requirements shall include:
  - 1) Minimum 14-gauge stainless steel construction.

- 2) Vertical and horizontal corners rounded to not less than 19mm radius.
- 3) 19mm double walls at all partitions.
- 4) Continuous 14-gauge stainless steel exterior filler panels shall be provided between sink compartments of multi-compartment sinks and shall be ground smooth and polished to match the adjacent surfaces.
- 5) Bottoms scored and sloped toward drains and edges shall be rimless to countertop surface.
- 6) Equipped with waste and overflow fittings and drain plugs with quick-opening valves.
- 7) Each sink shall have a faucet set as described below unless otherwise noted:
- a) Faucets shall be mounted on the countertop back splash with exposed body and concealed supply connections.
- b) Spout shall be swing-type approximately 200mm in length and spout outlet shall be a minimum of 120mm above the rim of the sink.
- $\,$  c) Valves shall have indexed metal lever handles and replaceable seats.
- d) Kitchen faucets shall meet the requirements of NSF 61, Section 9.
- e) Valves shall have indexed metal lever handles and replaceable seats.

#### 1.3.10 Hand Sink (ITEM NO. 12)

#### 1.3.10.1 General Description and Requirements

Hand sinks shall be dimensioned and located as shown on the RFP drawings. Hand sinks shall be wall-mounted without floor support. Hand sink shall be equal in performance, function, features, dimensions, and construction to Elkay Model No. CHS-1716-C. Reference Attachment No. 2 for manufacturer's product literature and data.

- A. Material and Performance Criteria: Hand sinks shall include the following minimum requirements:
  - 1) One piece deep drawn heavy gauge stainless steel with all vertical and horizontal corners coved.
  - 2) Overall dimensions shall be a minimum  $430~\mathrm{mm}$  long by  $380~\mathrm{mm}$  wide with a sink compartment size of  $350~\mathrm{mm}$  by  $250~\mathrm{mm}$  by  $120~\mathrm{mm}$  deep.
  - 3) Integral 195 mm high backsplash with a 51 mm turn back on a 45 degree angle.

- 4) Provide stainless steel skirt on front and sides.
- 5) Installation height shall be 864 mm at rim height.
- 6) Hand sinks shall have two openings in the backsplash at 102mm on center to support a standard faucet with wrist action lever handles and a swivel gooseneck spout with aerator.
- 7) Equipped with a 38 mm stainless steel basket drain, a lever operated drain with built-in overflow.
- 8) Sink accessories shall include:
- a) Wall-mounted stainless steel paper towel dispenser designed to dispense "C" fold paper towels.
- b) Wall-mounted liquid soap dispenser located over the sink unit.

#### 1.3.11 Dishwasher (ITEM NO. 13)

#### 1.3.11.1 General Description and Requirements

Dishwasher shall be a door model equal in performance, function, features, dimensions, and construction to Hobart Model No. AM14 with "right-to-left" operation. Reference Attachment No. 3 for manufacturer's product literature and data. Dishwashing function shall include stainless steel counters with dimensions, including counter height, to coordinate with the dishwasher to provide a smooth loading and unloading operation.

- A. Construction and Performance Requirements: The dishwasher shall include the following minimum construction and performance criteria:
  - 1) Electric Heated.
  - 2) Shall include electric booster heater option. The booster heater shall:
  - a) Be adequately sized to boost 49 degree C inlet water temperature to 82 degree C.
  - b) Include pressure/temperature relief valve and pressure gauge for incoming water.
  - 3) 16-gauge stainless steel construction.
  - 4) Spring-loaded, counterbalanced, guided doors with chrome plated handles.
  - 5) Minimum 605 Liters per minute pump capacity.
  - 6) Microcomputer control system in single housing mounted on the side of the dishwasher, field adjustable height.
  - 7) Maximum 62 second cycle to include wash, dwell, and 2 rinse cycles.
  - 8) High efficiency self-draining pump.

- 9) Door cycle switch. Automatically starts wash cycle timer program when doors are closed.
- 10) Automatic temperature control and positive low-level water protection.
- 11) Interchangeable upper and lower level wash and rinse stainless steel arms.
- 12) Removable stainless steel, self-flushing strainer pan and scrap basket.
- 13) Automatic drain shut-off.

#### 1.3.11.1 Accessories

Dishwasher shall include a minimum of 6 each molded, all plastic construction racks of appropriate dimensions to fit the dishwasher. Rack configurations shall accommodate and be designed to hold dishes, flatware, utensils, silverware, cups, glasses, and cafeteria-type trays.

#### 1.3.12 Pre-Wash Sink/Foodwaste Disposer Unit (ITEM NO. 14)

#### 1.3.12.1 General Description and Requirements

The unit shall be located in the countertop to the right of the dishwasher. Unit shall be equal in performance, function, features, dimensions, and construction to Hobart Model No. FD3-300. Reference Attachment No. 4 for manufacturer's product literature and data.

- A. Construction, Performance, and Functional Criteria: The pre-wash sink and waste disposer unit shall include the following minimum requirements:
  - 1) Food Waste Disposer Component. The food waste disposer unit shall include:
  - a) 3 H.P., 3 phase, 60 Hz., motor with manual reset thermal overload and permanently lubricated ball bearings.
  - b) NEMA 12 wall mounted electrical control box enclosure containing magnetic contactors, pushbutton start and stop, solenoid valve, and automatic reversing.
    - c) Heavy aluminum grind and discharge housings.
    - d) Vinyl isolating mounting ring.
  - e) 38 mm chrome plated brass tailpiece for connection to standard drain trap.
    - f) Dual directional grinding capability.
  - 2) <u>Sink Cone</u>. Stainless steel sink in the shape of a cone recessed in the countertop specifically designed for attachment to the waste disposer. The sink cone and components shall include:
  - a)  $\,$  380 mm inside diameter sink cone with hole for water swirl inlet.

- b) Vacuum breaker.
- c) Water Swirl Inlet. 13 mm N.P.T.
- d) Pre-Rinse Spray Assembly. Equal to Hobart model no. PR-3 Utility Spray. Assembly includes backsplash mounted faucet assembly and flexible metal-encased 914mm long hose with adjustable spray head.
  - e) Vinyl silver-saver splash guard ring.

#### 1.3.13 Scullery [Pot/Pan Wash] Unit (ITEM NO. 15)

#### 1.3.13.1 General Description and Requirements

The scullery sink unit shall be a pre-fabricated, self-contained unit consisting of 3 sink tanks, two faucet sets, drain boards, and a wash sink heater. Unit shall be UL-Listed in accordance with NSF Standard No.2 and shall be certified to CSA Standard with labels affixed. Unit shall be dimensioned and located as shown on the RFP drawings. Unit shall be equal in performance, function, features, dimensions, and construction to Hobart "TurboWash" model. Direction from soiled to clean end shall be left to right. Reference Attachment No. 5 for manufacturer's product literature and data.

- A. Construction and Performance Criteria: The scullery sink unit shall include the following minimum criteria:
- 1) Unit shall be constructed of 14 gauge, Type 304 stainless steel.
- 2) Unit shall have an 280 mm high by 64 mm deep back splash and front trim panel.
- 3) Unit shall include removable, welded H-frame leg sets, adjustable bullet feet, and detachable/adjustable height cross rails.
- 4) Wash sink shall contain:
  - a) Centrifugal pump with 102 mm diameter intake and 76 mm diameter outlet.
  - b) 2 H.P. totally enclosed (TEFC) wash pump motor with permanently sealed bearings.
    - c) Thermal overload and low water protection for water pump.
    - d) 8 each 38 mm diameter wash nozzles.
    - e) Automatic motor overload reset.
  - f) 2.5 KW wash sink heater with high temperature and low water protection. Includes heat selector switch for off, normal ( 46 degrees C), and high (60 degrees C) settings.
    - g) Dual inlet strainer.

- h) 305 mm by 305 mm by 78 mm deep, high volume wash sink sump with removable basket strainer.
- i) Pre-rinse faucet/spray assembly with 13mm hot and cold water connections to be mounted on the back splash, centered on the wash sink. Assembly includes a spray assembly equal to Hobart model no. PR-4.
- 5) Unit shall include a high-quality mixing faucet set mounted to the backsplash to service the rinse and sanitizer sinks.
- 6) Drain boards shall be scored and slope toward the sinks.

#### 1.3.14 Vegetable Preparation Unit (ITEM NO. 16)

Unit shall consist of two sink compartments with stainless steel counters on each end of the unit. Location and dimensions shall be as shown on the RFP drawings.

#### 1.3.14.1 General Description and Requirements

- A. Construction and Performance Criteria: The vegetable preparation unit shall include the following minimum criteria:
  - 1) Unit shall be constructed of 14 gauge, Type 304 stainless steel. Construction shall be in accordance with the latest requirements of NSF Std. No. 2 and shall bear the NSF label.
  - 2) Unit shall have an 280 mm high by 64 mm deep back splash and front trim panel.
  - 3) Unit shall include removable, welded H-frame leg sets, adjustable bullet feet, and detachable/adjustable height cross rails.
  - 4) Backsplash mounted faucet assembly shall include a separate sprayer/rinse head or an adjustable head which produces both spray and stream.
  - 5) Countertops shall have a rolled rim edge coved up 76 mm with a 38 mm wide rim rolled 180 degrees and turned down to the countertop; hem edges, and bullnose corners. Countertops shall slope toward sinks.
  - 6) The lefthand sink shall include a foodwaste disposer as specified in paragraph 1.3.18, item no. 20.

#### 1.3.15 Condensate Hoods (ITEM NO. 17)

#### 1.3.15.1 General Description and Requirements

Hood and duct work systems shall conform to ACGIH-2092M , SMACNA HVAC Duct Const Stds, and NFPA 96. Hoods over dishwashing machines and the rinse compartment of pot washing sinks shall be located and provided to dimensions as shown on the government drawings. Vent hood shall be wall or ceiling mounted and exhaust through the ceiling. Minimum unit performance and utility requirements shall be detailed in specification Section 01016,

MECHANICAL, and Section 01017, ELECTRICAL. Supply and installation of exhaust fans for food service equipment and exhaust hoods shall be as specified in Section 15895A, AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM.

- A. Construction and Component Requirements: The exhaust system shall include the following minimum requirements:
  - 1) Bottom of the hood shall be 1980~mm above the finished floor or as recommended by the manufacturer to achieve maximum performance.
  - 2) Construction shall be in accordance with the latest requirements of NFPA Bulletin No. 96 and NSF Std. No. 2 and shall bear the NSF label.
  - 3) Unit shall be constructed of 18-gauge Type 304 stainless steel with No. 4 finish.
  - 4) Hood shall include a removable condensate baffle constructed of 18-gauge stainless steel.
  - a) Baffle shall be pitched to drain into a full perimeter welded condensate collecting gutter with a 25mm N.P.T. stainless steel drain fitting at the rear corner.
  - b) Provide wall mounted drain pipe from fitting to floor  $\operatorname{sink}$ .
  - 5) Welded duct collar shall be centered in the top of the hood and sized to required performance and equipped with stainless steel balancing damper.
  - 6) Ducts at dishwashing machines shall consist of two vertical ducts, one at each end of the dishwasher. The intake of each duct shall be at the top edge of the dishwasher and the ducts shall extend to 150 mm above the finished ceiling for final connection. The exhaust outlet shall be connected to the exhaust system.
  - 7) Provide stainless steel closure channels and trim as necessary to close gap between the top of the exhaust hood and the finished ceiling.

#### 1.3.15.2 Make-Up Air

The air volume which is exhausted from a kitchen shall be replaced as required by NFPA 96. Make-up air diffusers shall be provided exterior, the full length of the front panels, at both sides of the hood producing a low velocity discharge. The supply air plenum shall have 25 mm thick foil-faced fiberglass insulation at interior of plenum. The temperature differential between make-up air and the air in the conditioned space shall not exceed 5 degrees C, except air that is part of the air conditioning system or air that does not decrease comfort conditions of the occupied space.

#### 1.3.16 Exhaust Hoods Over Cooking Equipment (ITEM NO. 18)

#### 1.3.16.1 General Description and Requirements

Ceiling mounted, stainless steel, exhaust hood shall conform to ACGIH-2092M, NFPA 96, and SMACNA HVAC Duct Const Stds. Hoods shall be U.L. listed per UL 710 and NSF approved. Minimum unit performance and utility requirements shall be detailed in specification Section 01016, MECHANICAL, and Section 01017, ELECTRICAL. Supply and installation of exhaust fans for food service equipment and exhaust hoods shall be as specified in Section 15895A, AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM.

#### 1.3.16.2 Construction and Component Requirements

Hoods shall be of the canopy and filter type. Non-canopy type hoods shall pronot be provided. Grease extracting type hoods shall pronot be provided. The exhaust system shall include the following minimum requirements:

- A. Unit shall be custom fabricated to dimensions as shown on the government drawings.
- B. Each exhaust hood system that serves cooking equipment, associated exhaust hood system ducts, and all cooking equipment served by the exhaust hood system shall be protected with a wet chemical fire extinguishing system. The wet chemical fire extinguishing systems shall be in accordance with  $^{\rm Section~13965A}$  WET CHEMICAL FIRE EXTINGUISHING SYSTEM.

#### 1.3.16.3 Integral Make-up Air System

Hood shall be provided with an integral make-up air system which automatically replaces the air volume that is exhausted by the hood. The make-up air system shall be in accordance with NFPA 96. Make-up air diffusers shall be provided at the front panel and at the exterior length of the hood producing a low velocity discharge. The supply air plenum shall have a 25 mm thick foil-faced fiberglass insulation at the interior of the plenum. The temperature differential between the make-up air and the air in the conditioned space shall not exceed 5 degrees C, except for air that is part of the air-conditioning system or air that does not decrease comfort conditions of the occupied space.

#### 1.3.16.4 Hand Held Fire Extinguishers

Hand held fire extinguishers shall be located at each exhaust hood and shall be suitable for gas, electric, and grease fires.

#### 1.3.16.5 Canopy Hoods

Canopy hoods shall completely cover the cooking equipment. The hood shall overhang the cooking equipment a minimum of 150 mm at each end and 300 mm in front of the equipment. Exhaust air volumes for hoods, wall or double island type, shall be a minimum of 0.51 cubic meter per second per square meter of suction opening, to provide for capture and removal of grease-laden cooking vapors. Test data or performance acceptable to the authority having jurisdiction over both shall be provided and displayed.

#### 1.3.16.6 Grease Filters

Grease filters shall be in accordance with UL 1046. Filters shall remove heat, odor, smoke, residue, and grease vapors from the exhaust of the applicable cooking process. Filter design shall result in optimum air velocity for the removal of residues and grease. Construction shall be stainless steel in an overlapping staggered arrangement to restrict the

passage of flame upstream of the filter media.

#### 1.3.17 Wall Mounted Shellving (ITEM NO. 19)

#### 1.3.17.1 General Description and Requirements

Wall-mounted stainless steel shelving units shall be composed of shelf surface, framing supports, and angled wall brackets. All components shall be stainless steel.

- A. Construction and Fabrication Requirements. The wall mounted shelving shall include the following minimum requirements:
  - 1) Units shall be custom fabricated to dimensions, profiles, and in quantities as shown on the government drawings. Construction shall be in accordance with the latest requirements of NSF Std. No. 2 and shall bear the NSF label.
    - a) Shelf depth shall be 305 mm at all locations.
  - 2) Shelf component shall be constructed of 14 gauge stainless steel.
  - 3) Integrally coved back and sides shall be turned up 102 mm at 90 degrees on a 16 mm radius. Top edge of backsplash and end splashes shall be feathered and ground smooth in a bullnose profile to eliminate sharp edges.
  - 4) All front edges shall utilize a "turned down" profile consisting of 51 mm at 90 degrees with a 19 mm tight hem at the bottom. Free edges shall be rounded on a 19 mm radius.
  - 5) Perimeter and intermediate framing support shall be constructed of 25 mm by 25 mm 12 gauge stainless steel and welded to angled wall supports.
  - 6) Angled wall bracket shall be fabricated from 12 gauge stainless steel. Vertical bracket component shall include integrally radiused 50 mm horizontal top and vertical back flanges. Top flange shall be welded to the shelf framing support. Back flange shall be bolted to the wall with a minimum of 2 stainless steel toggle bolts per bracket.
    - a) Maximum distance between brackets shall be 1500 mm.
  - b) End brackets shall be located and inset 150 mm from the shelf ends.

#### 1.3.18 Foodwaste Disposer (ITEM NO. 20)

#### 1.3.18.1 General Description and Requirements

The unit shall be installed at the drain location for the lefthand sink in the vegetable preparation unit (item no. 16). Unit shall be equal in performance, function, features, dimensions, and construction to Hobart Model No. FD3-75. Reference Attachment No. 6 for manufacturer's product literature and data.

A. Construction, Performance, and Functional Criteria. The foodwaste

disposer unit shall include the following minimum requirements:

- 1) 3/4H.P., 3 phase, 60 Hz., motor with manual reset thermal overload and permanently lubricated ball bearings.
- 2) NEMA 12 wall mounted electrical control box enclosure containing magnetic contactors, pushbutton start and stop, solenoid valve, and automatic reversing.
- 3) Heavy aluminum grind and discharge housings.
- 4) Vinyl isolating mounting ring.
- 5) 38 mm chrome plated brass tailpiece for connection to standard drain trap.
- 6) Dual direction grinding.

#### 1.3.18.2 Installation Requirements

The sink unit shall include all necessary drain opening dimensions and fittings for a secure, watertight installation of the foodwaste disposer.

#### 1.3.19 Food Waste Disposer (ITEM No. 21)

The food waste disposer unit shall be a first quality residential unit similar to KitchenAid model no. KCDS250X with the following minimum features and requirements:

- A. Instant energy 1-HP Capcitator-start motor.
- B. Wall Switch start method.
- C. Continous feed system with anti-jam reversing action.
- D. Polystyrene sound barrier.
- E. Corrosion-resistant drain chamber guard and stainless steel grind chamber.
- F. Manual reset overload protector.
- G. 7-year full warranty.

-- End of Section --

W.A.Brown & Son, Inc.

## How to Specify your New Walk-In Cooler or Freezer.



Volume 1, Issue 1

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## Considering a new Walk-In???

So, you have decided to purchase a new walk-in. Whether you are an old pro at equipment specifying or brand new, taking a few minutes now to review your specific needs will certainly save you time and money in the future. And you will be significantly more pleased with your walk-in because you have taken the time up front to determine your needs both for today and the future.

The first step in properly specifying your walk-in cooler or freezer is to determine the size you require, how you will use it and where it will be located.

Make a list of all goods to be stored, case sizes, and maximum quantity of goods to be on hand that need to be stored in your walkin. Be sure you list all products to be stored, the case dimensions and the number of cases to be stored at any one time. Remember to consider your deliveries and the fact that on certain days (such as delivery days) you will need considerably more cold or frozen food storage. On this list indicate whether the goods are to be refrigerated or frozen. Of great importance when holding frozen food,



is the proper temperature you wish to hold the food. Some products can be safely held at 0 degrees Fahrenheit while others require temperatures as low as -20 degrees.

If your requirements call for a cooler and freezer, will they be in the same location or in different locations? Placing your freezer adjacent to or behind your cooler will keep your operating costs lower, because when the freezer door is open, it will open into the cooler, and not open to the heat of the kitchen. Thus less cold air will escape, reducing the load on the refrigeration system.

Will your walk-ins be placed indoors or outdoors? Outdoor additions save valuable indoor space, but may cause other operational considerations and may require cutting doors from your existing building.

## **Specification Points...**

Will your walk-in be used as part of your visual-merchandising program? If you are going to have your customer base see your walk-in, you may wish to have a lot of windows or sliding doors in the side of your cooler.

Is there an existing refrigeration source?

Does your facility have existing refrigeration system that could power your new walk-in? If you do have an existing refrigeration source, how far is it located from the proposed walk-in? The farther away the refrigeration system is, the more temperature losses you will experience simply due to the law of physics. What are the specifications of any existing system?

#### Inside this issue:

Electrical, Refrigeration, Floors	2
Shelving, Doors	3
Delivery Options	4
Outside Units, Finishes Avail.	5
Work Sheet	6
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## Special points of interest:

- Determine the size of unit you require.
- Specify the accessory group that best meets your needs.
- Decide where the unit will be located and how it will be used
- Your specification can be given to any dealer or manufacturer to develop a quotation.

Here is a check list to help you arrive at the correct size for your walk-in.

### **Floor Construction**

Will you be storing extra heavy items in the walk-in such as beer kegs? While most walk-in's can accommodate up to 600 pounds per square foot of weight, some items might weigh more than that. Now is the time to consider a reinforced floor, rather than after your walk-in has been assembled. Reinforced floors can carry loads up to 1000 #/ft.sq.

Will suppliers using a two-wheeled hand truck make deliveries directly to your walk-in? Consider a ramp or recessed floor to accommodate this type delivery. There are several



choices in ramps: interior, exterior & combination ramps are available. A Thin-line (two inch) floor is now available for a limited amount of installations. Call W.A.Brown for details to see if it will work in your particular situation. On what type of floor will the walk-in be constructed? Will it be Wood, Concrete, or Tile? Each type floor has its own advantages and disadvantages. W. A. Brown will supply a modular, insulated floor from our factory. All freezers require a floor, due to the insulating properties needed. Coolers can be ordered with or with-



Beer Kegs are Extra Heavy

out an insulated floor. In cases where you will be providing the floor, make sure the existing floor is insulated. Will the existing floor handle the weight of the walk-in box when it is fully leaded?

Some floors are constructed of smooth mill aluminum, others of Diamond Aluminum Treadplate which resists slipping and aids traction and safety. Most manufacturers offer the Treadplate as an option if not a standard.

# Sizing your Refrigeration System



Remote or Self-Contained Refrigeration Used?

#### Electrical & Plumbing Considerations...

What electrical power is readily available? You will need to know the voltage, phase, and amperage. Voltage in new construction is normally 208V. However in a remodel situation, you may find 208V or 240V (220-240v) or perhaps even 480V. This voltage can be in single or three phase (1 or 3 phase). It is important to know what type voltage, phase and amperage you have available to properly set up your refrigeration system. Some smaller systems operate on 120V, but do not count on this for walk-in units above 4'x5'.

Is there a floor drain available? Refrigeration systems generate condensate water, which must be drained. Some systems offer a "hot gas" evaporative system which eliminate the need for drains. However, at this time, those systems are only available on the smaller refrigeration systems. If a drain is not close by, you will need to provide one.

Sizing your refrigeration is best handled after sizing the box itself. In general, systems are provided as Self Contained or Remote. Refrigeration systems produce a certain amount of heat, noise and condensation. You may decide you wish those by-products to be remote from your kitchen. However, the trade-off for this is additional expense. If you use this option, be sure to determine the length of run to the walk-in in advance. Top and side mounted units require space adjacent to the boxes. Remote refrigeration units can be utilized.

What is the frequency of your deliveries? What is the frequency of the opening and closing of your walk-in door? Both of these can require you to add additional refrigeration capacity to overcome the loss of cold temperatures and the intrusion of heat.

If food product is put away hot, consider increasing the size of refrigeration unit If the walk-in door is open a great deal during the day, discuss increasing the size of your refrigeration unit with your dealer. You may also wish to consider purchasing an air curtain or strip door do mitigate stress on the refrigeration unit.

What is the ambient room temperature of the adjacent areas to your walk-in? Obviously the higher the ambient temperature, the more refrigeration will be required. Many times the walk-ins are required to be adjacent to the cooking battery, where the normal temperature is above 85 degrees. All of these issues should be considered when sizing your refrigeration system.

How to Specify your New Walk-In Cooler or Freezer.

Page 2



## **General Specifications**

Walk-in Coolers and Freezers shall be designed with modular panels to facilitate easy assembly and disassembly for relocation and for the expansion of the coolers or freezers if required by customers. The prefabricated, sectional constructed panels shall be metal clad.

#### PREFABRICATED PANEL CONSTRUCTION

- The panels shall consist of interior and exterior metal skins predisely formed with steel dies and roll-form equipment and thoroughly checked with gauges for uniformity and accuracy. The Insulation shall be "Foamed-In-Place" rigid urethane and when completely heatcured, shall bind tenaciously to the metal skins and form a ridged four (4) inch thick insulated panel. The urethane insulation must also adhere to the cam-action locking devices. All panels shall have 100% "Foamed-In-Place" urethane insulation and have no internal wood, metal or high density urethane structural members. To insure that all joints are air tight and vapor proof all panel edges must have a "Foamed-In-Place" double tongue and groove edge on all sides which are of the same density as the rest of the panel. A flexible vinyl gasket which is also "Foamed-In-Place" shall extend around the interior and exterior perimeter of each male edge. This gasket shall not be glued or stapled in place. Gaskets shall be resistant to damage from oil, grease, water, detergents and sunlight, and must be NSF Approved and shall be flame retardant.
- 2.2 Wall panels shall be made in 11-1/2", 23" and 46" widths.
- 2.3 Door panels shall be in 46", 57-1/2" or 69" widths.
- Corner panels shall measure either 11-3/4\* X 11-3/4\*, 11-3/4\* X 23-1/2\*, or 23-1/2\* x 23-1/2\*. The corners shall be a precise 90 degree angle to assure maximum strength and perfect alignment.
- 2.5 Floor panels shall measure 23\*, 35\*, 46\* or 46-1/2\* wide. The floor sections shall be made to support a uniformly distributed load up to and including 750 lbs. per square foot.
- When a floor is not specified the walk-in shall be supplied with an extruded PVC insulated floor screed. This screed shall match the double tongue and groove design of the wall panels and must cam and lock securely. A PVC panel track is also used for Quick Set applications.
- 2.7 All panels are to be interchangeable for fast and easy installation.

#### 3.0 CAM LOCKS

- Cam-action locking devices shall be accurately and precisely positioned in the panels to assure a positive joint. Where wall panels are joined together there shall be a minimum of three (3) locking devices. These locking devices shall consist of a camaction rotating locking arm in the tongue edge. This locking arm shall engage a steel rod which is firmly anchored in the groove edge. This action will draw all tongue and groove joints firmly and tightly together. Each section of the locking device shall have sufficient surface to assure rigid anchoring. The locking device shall be bonded in the urethane foam without need of additional anchorage arrangements. Both the locking arm and the steel rod shall be housed in steel pockets and "Foamed-In-Place". The steel pockets shall have a flange on each side to give additional binding strength.
- All locking of standard sections shall be performed from the interior by means of a hex wrench which is furnished by the manufacturer with the cooler or freezer. The wrench holes shall be recessed and covered with a stainless steel or white plug button. The plug buttons shall be flush with the metal skin of the panels. Surface mounted steel or plastic buttons will not be accepted.

- Insulation shall be rigid urethane "Foamed-In-Place". The thermal conductivity factor (K) shall not exceed 0.135 BTU per hour, per square foot, per degree Fahrenheit, per inch. Overall coefficient of heat transfer (U-factor) shall not be more than .033 for 4" walls. The R-Factor shall have a value of R30. Insulation shall have a 98% closed cell structure and average in-place density of 2.25 lbs. per cubic foot
- The insulation must retain dimensional stability in an operating temperature range of -40 degrees F. (-40.0C) to 250 degrees F.

#### 5.0 WALK-IN DOORS

W.A. Brown & Son, Inc. 209 Long Meadow Dr. Salisbury, NC 28147

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- 5.1 Manufacturer's standard door shall be flush mounted. Both door and leaf shall be of similar construction and finish as wall panels.
- 5.2 A heavy duty 14 gauge steel "C" channel of "ADDISON POWER H BRACE" style construction shall be "Foamed-In-Place" around entire door opening to secure hardware and prevent racking and warping. This steel structure when used in conjunction with the FRP door jamb shall form a rigid frame that eliminates thermal transfer from the exterior to the interior of the panel thus reducing the requirement for additional anti-condensate heaters.
- The door leaf shall consist of a heavy 4\* wide, .250\* thick, thermally fused and polished PVC perimeter into which the interior and exterior metal skins are secured and shall create a thermal break between metal facings. In addition, the PVC frame shall include a "RIBBED" channel around the inside perimeter into which the magnetic gasket shall mate and be firmly held. Each door leaf must also include interior 14 gauge steel "C" channels across the entire face of the door at the hinge and latch stress points. Additional "C" channels are to be "Foamed-In-Place" behind the interior face to accept protector plates when required and to increase strength and rigidity. Interior steel plates for securing additional hardware [..., Foot treadles, door closers, etc.) shall be a standard part of door construction. Securing hardware into wood blocks will not be accepted.
- The door sections shall have a frame which is made of a pultruded FRP (Fiberglass Reinforced Plastic) material that provides both strength and durability. This FRP frame shall have a channel molded into it which will accept the anti-sweat heater and a easy replacement of the heater.
- 5.5 Each freezer door shall have a single anti-condensate heater and shall be concealed behind the stainless steel edge of the door jamb on all sides to prevent condensation and frost formation. This heater shall be easily accessible for replacement or service.

Quality First in Freezers and Coolers Since 1910



## **General Specifications**

No heater shall be required around the perimeter of the door leaf. Applications of 35 degrees F. and above shall not require a door heater.

- 5.6 When a threshold is required it shall be made of 12 gauge stainless steel and must be an integral part of the door section. The threshold must be installed by the factory and shall be of universal design which will allow the door section to be moved from one location to another without any preparation by installers.
- 5.7 A dial thermometer shall be mounted on the door panel. It shall provide temperature reading in a minimum range of -40 degrees F to + 99 degrees F and be accurate to + or 1 degree F.

#### 6.0 DOOR HARDWARE

- 6.1 The door hinges shall be of cam-lift design and shall be heavy duty chrome plated with steel pins and nylon bushings. Hinges shall have a minimum 9" strap and shall be installed in sufficient numbers to carry twice the weight of the door.
- 6.2 The door latch shall be constructed of similar materials and finish as the door hinges. The latch shall be designed to open the door easily. The inside safety release features shall comply with OSHA standards.

#### 7.0 GASKETS FOR WALK-INS

7.1 A vinyl gasket with a magnetic core using "Christmas Tree Type Construction" shall mate with the top edge and along both sides of the door. The magnetic force of the gasket shall be ample enough to keep the door in a closed position and form a tight seal. The bottom edge of the door shall contain a flexible double wiper gasket.

#### 80 LIGHTING

- 8.1 Each entrance door shall be provided with an incandescent vapor-proof light on the interior of the door section. The light shall have a coated glass shatterproof globe. A neon pilot light and toggle switch shall be flush mounted on the exterior of the door section and shall have a stainless steel cover. The door panel and door leaf shall be UL approved in its entirety, including all mounted accessories.
- 8.2 A vapor proof light shall be capable of accepting up to a 100 watt appliance bulb (not furnished by manufacturer).

#### 9.0 HOUSEKEEPING AND SAFETY PROCEDURE

9.1 Each door panel shall have a metal housekeeping and safety release procedure placard and shall be attached with pop-rivets to the metal skin of the door leaf. This placard will be in a highly visible location.

#### 10.0 INSTALLATION AND MAINTENANCE INSTRUCTIONS

10.1 A complete set of instructions covering both the maintenance and the installation of the cooler shall be provided.

#### 11.0 N.S.F. APPROVAL (NSF.)

11.1 Construction shall be of a design approved by the National Sanitation Foundation and shall carry the N.S.F. Label of Approval mounted on each door section.

#### 12.0 UL ELECTRIC APPROVAL

12.1 All door sections shall be wired electrically in such a manner and design so as to be approved by Underwriters Laboratories and each door section shall carry the UL Listing Mark.

## 13.0 UL 25 FLAME SPREAD CLASSIFIED\*\* (UL)

13.1 Each individual panel shall have a flame spread rating of 25 or less, and have a smoke development of 400 or less. Each section shall have affixed to it a label stating the above ratings. (Class I composite panel.)

\*\*This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions. (See UL Classified Building Materials Index)

#### 14.0 LIFETIME PANEL WARRANTY

- 14.1 W.A. Brown & Son, Inc. warrants to the original purchaser, the full foamed-in-place aluminum and stainless steel panels manufactured and sold by it, to be free from defects in material and workmanship under normal use and service for life from the date of original installation by an authorized representative. All other panels manufactured by W.A. Brown & Son, Inc. shall be warranted against delaminating and/or insulation separation for life from the date of original installation by an authorized representative. Oxidation of panels, and panel aesthetics are expressly excepted from this warranty.
- 14.2 This warranty shall not apply to equipment which in the manufacturer's opinion, has been subjected to abuse, misuse, misapplied, or improperly installed. See warranty detail packed with each walk-in unit shipped.

#### 15.0 CEILING PANEL SUPPORT SYSTEMS

15.1 When the dimensions of an insulated room are such that a single span top panel is not applicable, it must be supported using an interior or exterior beam or must be supported by all thread rods (not furnished by manufacturer) attached to the building superstructure. Wood and steel structures which cause added maintenance shall not be acceptable.

#### 16.0 REFRIGERATION

16.1 Pre-assembled hermetic or semi hermetic systems are available. This system includes the condensing unit, unit cooler, expansion valve (loose), dehydrator, sight glass, pre-wired control panel, liquid line solenoid (loose), high and low pressure control, room thermostat (loose) & suction line filter. It will also include the weatherproof housing, head pressure control and crankcase heater.
Since Product Improvement is a continuing effort at W.A. Brown & Son, Inc., we reserve the right to make changes in specifications

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## Doors are Important specification points!

Δ 4'x5' walk-in

cooler has more

storage space than

a 3 door reach-in!



If your walk-in is to be located indoors, how many doors are there from the unloading point to the final location? What is the size of these doors? Is there room enough to maneuver the panels as the walk-in is delivered to the final site? For example, if you have to go up an elevator, will the elevator hold the length of the panels, or will you have to figure out another method (such as going through a window) to gain access to the final assembly site.

Walk-In doors are available in many sizes from 24" up to 60". Standard doors are 34" wide however, custom sized doors are avail-

Doors finishes are usually available in the same material as modular panels.

Since doors are the only moving part on your Walk-In, look at the door construction. Make sure your manufacturer is using heavy guage "C" channel construction in their doors and that all accessories are firmly fixed to these channels for longer life.

Door options include locking latches; automatic door closers; locking bars; observation windows; third hinges, extra dial thermometer, and digital alarms, just to name a few.



## Figuring shelving for your Cooler or Freezer...

If you have determined that you have 80 cubic feet or less of permanent refrigeration needs, a walk-in may not be the most economical solution to your needs. A three-door reach-in may do the job. If you are in this category but the bulk of your needs involve dunnage or large cases of product, there are walk-ins as small as 4'x5' that will prove appropriate. And usually they offer more storage space than the three door reach-in cooler, at about the same price.

After you calculate the size of your Walk-In, determine the lineal feet of shelving by and the number of shelves per section in order to obtain the lineal feet of shelving sections. Most accounts use a 4 tier section. Once you determine the lineal feet of shelving, add 15%-25% for increased business, for the future, and for special food buys. Add 25% if all or most shelving is reserved for loose products. Keep in mind the depth of shelving you will be using. Normally shelving comes in 12", 18" and 24" depths. If you are in doubt, figure your shelving at 18" in width.



A sketch of your walk-in always helps!

When you complete all the above, you will have the total lineal feet of shelving needed. Multiply this figure times the depth of the shelves for total square footage or floor space required for shelving. Multiply this figure by two for required aisle space. Compare this with your estimated storage needs.



This figure should get you 90% of the way to determining sizing requirements. If this figure exceeds the amount of available floor space, consider going five shelves high (in lieu of four) to reduce floor space by approximately 20%. If you choose this route, be aware that you will be required to specify a taller box. Further requirements are possible by creating free standing shelving in the center of the box. This shelving will "share" workspace with the wall shelves. Be sure that this configuration allows for unimpeded access to the door.

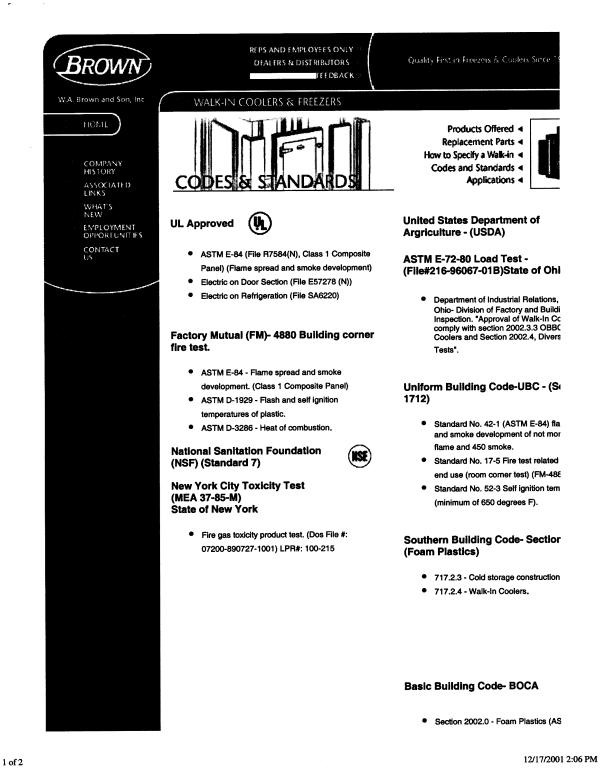
If the final figures exceed available space, you may have to consider adding a walk-in unit outside your kitchen space, or more frequent deliveries.

Be sure to include room to access the shelves in your isles.

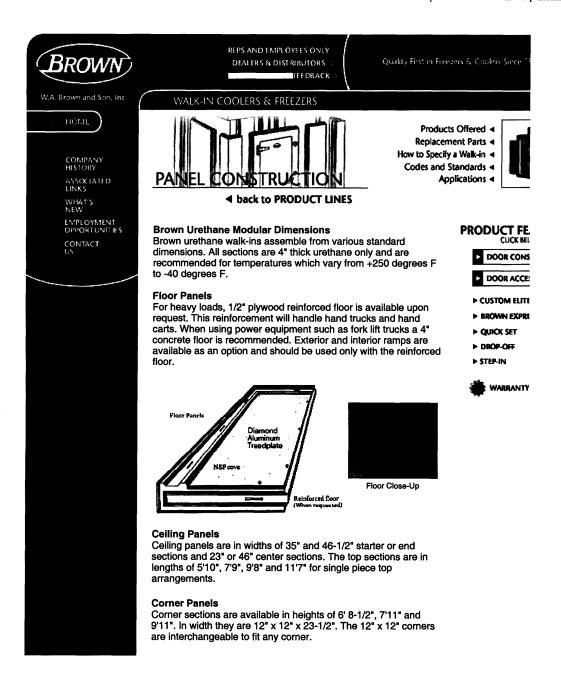
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Codes & Standards

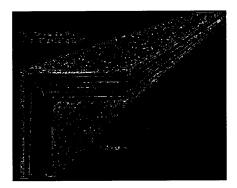


W.A. Brown & Son, Inc.



1 of 3

12/17/2001 2:55 PM



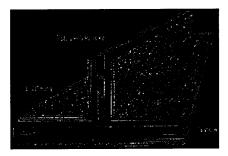
#### **Wall Panels**

The wall panels are available in the same heights as the corners and are in widths of 23" and 46" and with door sections of 46" or 69" widths. All sections are interchangeable. The same sizes are also used in the partitions of multi-compartment combinations.



#### **T-Section**

Allows you to have a common wall between freezer and cooler compartments.

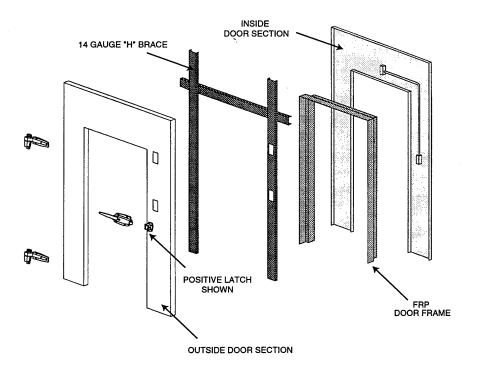


Outdoor Roofs
We recommend a single-ply membrane roof for all outdoor applications. Other roofing systems are available. Units are so structurally sound they can be placed outdoors as a stand alone building.

12/17/2001 2:57 PM 2 of 3

## **Door Section Construction**

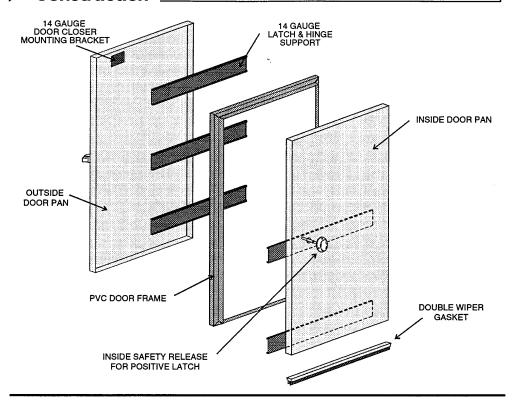


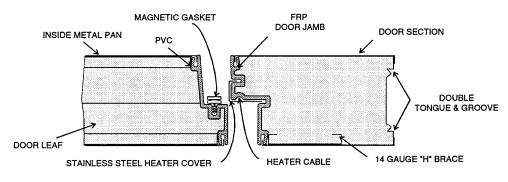


The Brown door is made with 14 gauge steel "C" channels "Foamed-In-Place". All accessories are fastened to the steel channels. All thresholds are 12 gauge stainless steel and are an integral part of the door section.

## **Door Leaf Construction**







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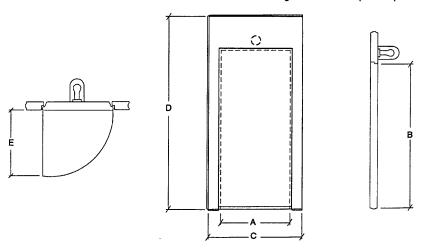
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## **Door Dimensions**

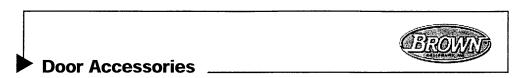
HEIGHT	WITH FLOOR					WITHOUT FLOOR				HEIGHT	WITH FLOOR			WITHOUT FLOOR							
7'51/4"	Α	В	С	D	Е	А	В	С	D	E	v.	А	В	С	D	Е	А	В	С	D	Е
	26	75	46*	801/2	32	26	761/2	46*	801/2	32	1	26	79	46*	119	32	26	801/2	46*	119	32
	30	75	46*	801/2	36	30	761/2	46*	801/2	36	10'8"	30	79	46*	119	36	30	801/2	46*	119	36
	34	75	46*	801/2	40	34	761/2	46*	801/2	40		34	79	46*	119	40	34	801/2	46*	119	40
	42	75	69	801/2	48	42	761/2	69	801/2	48		42	79	69	119	48	42	801/2	69	119	48
	48	75	69	801/2	54	48	761/2	69	801/2	54		48	79	69	119	54	48	801/2	69	119	54
	54	75	69	801/2	60	54	761/2	69	801/2	60		54	79	69	119	60	54	801/2	69	119	60
	60	75	69	801/2	66	60	761/2	69	801/2	66		60	79	69	119	66	60	801/2	69	801/2	66
	30	79	46*	95	40	34	801/2	46*	95	40	12'8"	30	79	46*	143	40	34	801/2	46*	143	40
	34	79	46*	95	40	34	801/2	46*	95	40		34	79	46*	143	40	34	801/2	46*	143	40
8'8"	42	79	69	95	48	42	801/2	69	95	48		42	79	69	143	48	42	801/2	69	143	48
	48	79	69	95	54	48	801/2	69	95	54		48	79	69	143	54	48	801/2	69	143	54
	54	79	69	95	60	54	801/2	69	95	60		54	79	69	143	60	54	801/2	69	143	60
	60	79	69	95	66	60	801/2	69	95	66		60	79	69	143	66	60	801/2	69	143	66

\*Also available in 57  $^{1}/_{2}$ " and 69" sections. Additional heights available upon request.

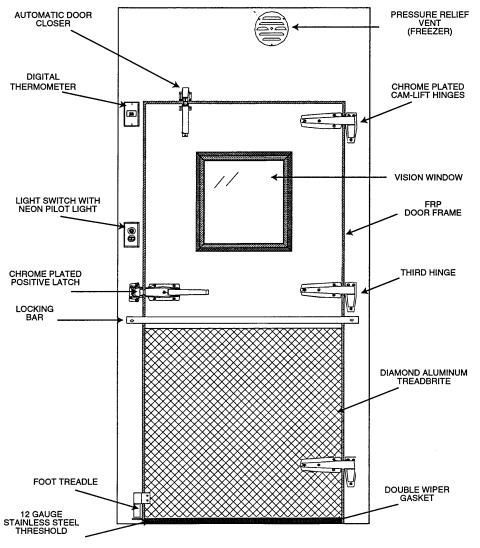


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### WALK-IN DOOR WITH OPTIONAL ACCESSORIES



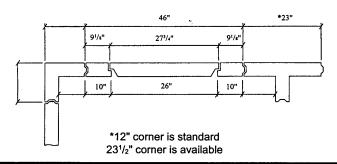
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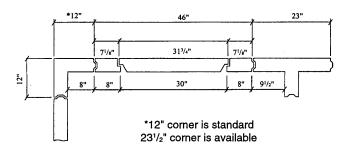


## **Door Locations** \_

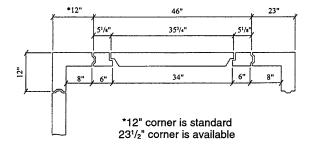
#### 26" DOOR IN A 46" DOOR SECTION



### 30" DOOR IN A 46" DOOR SECTION



#### 34" DOOR IN A 46" DOOR SECTION



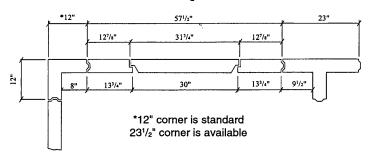
W.A. Brown & Son, Inc. 209 Long Meadow Dr. Salisbury, NC 28147 Page 4 Section 2 Rev. 5-00

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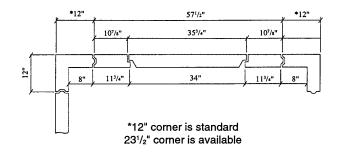


## Door Locations \_

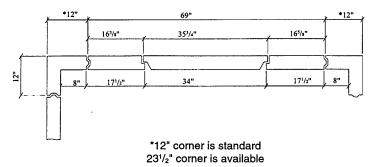
### 30" DOOR IN A 571/2" DOOR SECTION



### 34" DOOR IN A 571/2" DOOR SECTION



## 34" DOOR IN A 69" DOOR SECTION



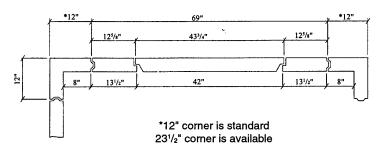
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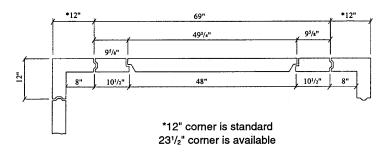


## Door Locations \_

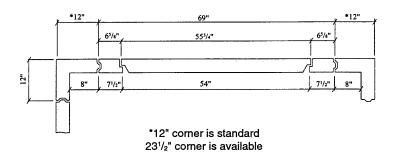
### 42" DOOR IN A 69" DOOR SECTION



#### 48" DOOR IN A 69" DOOR SECTION



#### 54" DOOR IN A 69" DOOR SECTION



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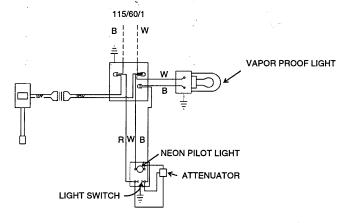
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## **Electrical Information**

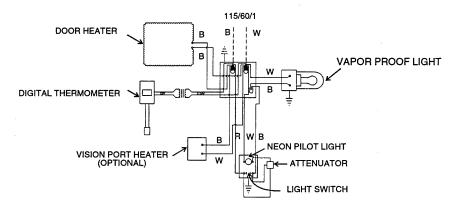
B = BLACK R = RED W = WHITE

## TYPICAL WIRING DIAGRAM WALK-IN COOLER DOOR



Note: If fluorescent lights are wired to light switch the attenuator must be removed.

## TYPICAL WIRING DIAGRAM WALK-IN FREEZER DOOR



Door heaters are standard on all freezers. If door heaters are desired on coolers they must be specified. Note: If fluorescent lights are wired to light switch the attenuator must be removed.

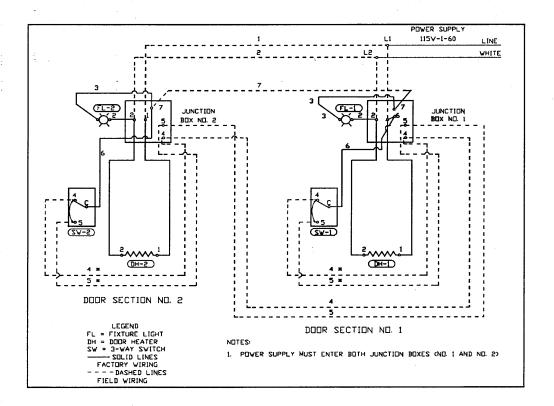
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## **Electrical Information**

## TYPICAL WIRING DIAGRAM 3 WAY LIGHT SWITCH FOR 2 DOOR WALK-IN

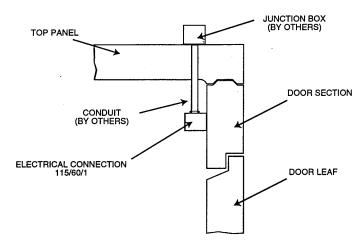


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## **Electrical Information**



Conduit must be vapor sealed both inside and outside with an approved sealant.

#### **STANDARD 78" DOOR HEIGHT**

DOOR SIZE	LIGHT	DOOR HEATER	DIGITAL THERMOMETER	VISION PORT	PRP (Separate Hook Up)	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	
30" WIDE	100 WATT MAX.	1.06 AMPS	12 VOLTS	.6 AMPS	.2 AMPS	

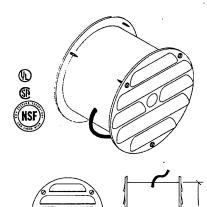
All door voltage is 115/60/1.

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## **Pressure Relief Port**



	Α	B*	С
1830	5 3/32"	4"	3 1/2"
1832	6 1/4"	4"	4 5/8"
1834	5 3/32"	4"	3 1/2"
1836	6 1/4"	4	4 5/8"

\*Other lengths available to specification

Heated valves prevent freeze-ups and reduce condensation on coolers. Two-way valve permits air flow in both directions, compensating for air expansion and contraction. Supplied in 115 or 220 volt models.

## 1830 Pressure Relief Port

**Specifications** 

**Material:** all metal parts aluminum, self-extinguishing Lexan internal sleeve

Finish: Aluminum
Weight: Approx. 2 lbs.

Other Information: Drilled for No. 8 (4.2 mm) screws. Electrical requirement: 110v or 220 v, specify voltage required. Standard size 4" (101.6 mm)wall thickness, specify other wall thickness when ordering.

**1834 Pressure Relief Port** 

Same as 1830 without heating element.

**1836 Pressure Relief Port** 

Same as 1832 without heating element.

**VENTILATOR QUANTITY SELECTOR** 

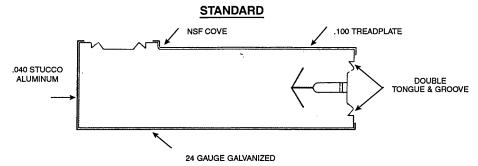
Size of Cooler Ft.	Volume of Cooler Ft.3	NO. OF VENTILATORS REQUIRED								
		0 to 10 Fa	ahrenheit	-30 to 0 Fahrenheit						
1		-17.8 to -12	2.2 Celsius	-34 to -17.8 Celsius						
		1832	1830	1832	1830					
5 x 5 x 7	175	1	1	1	1					
10 x 10 x 7	700	1	1	1	1					
15 x 15 x 7	1,575	1	1	1	1					
25 x 25 x 7	2,800	1	1	1	2					
20 x 20 x 7	4,375	1	2	2	3					
30 x 30 x 7	6,300	1	2	2	3					
35 x 35 x 7	8,575	1	2	2	3					
40 x 40 x 7	11,200	2	3	2	4					
45 x 45 x 7	14,175	2	3	2	4					
50 x 50 x 7	17,500	2	4	3	5					
55 x 55 x 7	21,175	2	4	3	6					
60 x 60 x 7	25,200	3	5	4	7					

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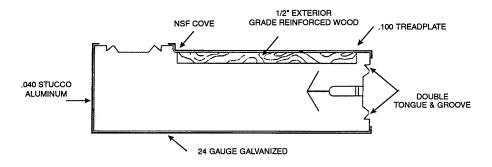






W.A. Brown standard floor panels are constructed with a .100 aluminum treadplate surface. These panels are made to support a uniformly distributed load of 750 lbs. per square foot.

#### REINFORCED



This reinforced floor will withstand a uniformly distributed load of 1000 lbs. per square foot.

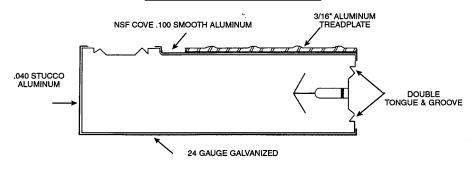
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## Floor Details Standard



### 3/16" ALUMINUM TREADPLATE



This method of construction will withstand a uniformly distributed load of 2500 lbs. per square foot.

Note: The three methods mentioned above are for uniformly distributed loads. These methods are sufficient for normal light weight rolling carts and dollies. If heavy traffic is to be used (i.e. fork lifts, pallet jacks) then it will be necessary to have a concrete wearing surface installed above the insulated floor. Please review the following methods to determine the best application for your needs.

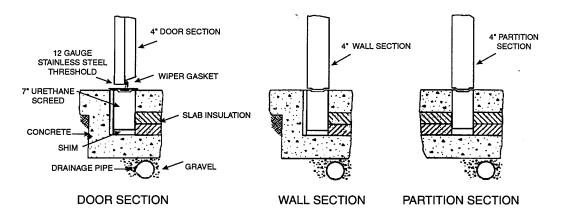
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## Floor Details Screed

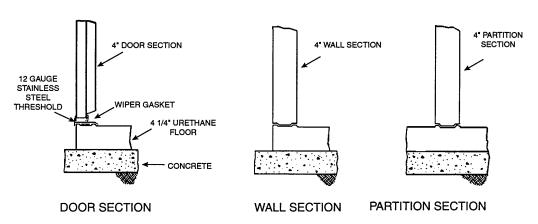


### **BUILT-IN FLOOR WITH 7" SCREED**



The 7" screed and walls must be erected before the floor insulation and concrete wearing surface is poured.

### PREFABRICATED FLOOR

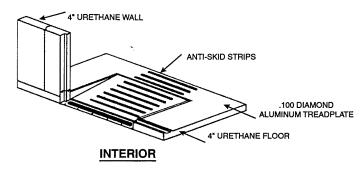


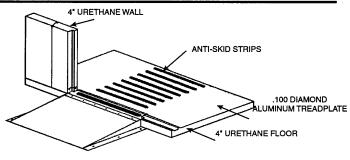
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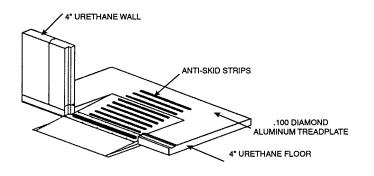
## Floor Details Ramps







## **EXTERIOR**



#### INTERIOR/EXTERIOR

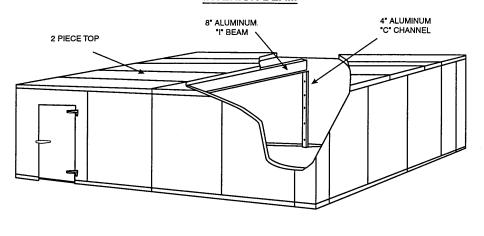
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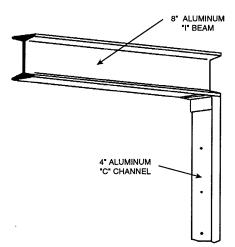
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## Top Support Interior



### **INTERIOR BEAM**





Interior 8" aluminum beams with 4" aluminum "C" channel can be used when the walk-in is erected indoors or outdoors. The maximum length for a clear span is 25'. For lengths longer than 25', a 4" round aluminum center post must be used. The aluminum post or "I" beam does not require painting and does not require maintenance as would be required when using steel or wood.

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# Actual Sizes Chart \_\_\_\_\_



	OUTSIDE WALI	LENGTHS	
5'10'	36' 6"	° 67' 2 <b>"</b>	97' 10 <b>"</b>
6' 9¹/₂ <b>"</b>	37' 5¹/₂ <b>"</b>	68' 11/2"	98' 91/2"
7' 9"	38' 5"	69' 1"	99' 9"
8' 8¹/₂ <b>"</b>	39' 41/2"	70' 01/2"	100' 81/2"
9'8"	40' 4 <b>"</b>	71' 0"	101' 8"
10' 7¹/₂ <b>"</b>	41' 31/2"	71' 11'/ <sub>2</sub> "	102' 71/2"
11' 7"	42' 3 <b>"</b>	72' 11"	103' 7"
12' 6¹/₂"	43' 2¹/₂ <b>"</b>	73' 10¹/₂ <b>"</b>	104' 61/2"
13' 6"	44' 2"	74' 10 <b>"</b>	105' 6"
14' 5¹/₂ <b>"</b>	45' 1¹/₂ <b>"</b>	75' 9¹/₂ <b>"</b>	106' 51/2"
15' 5 <b>"</b>	46' 1 <b>"</b>	76' 9 <b>"</b>	107' 5 <b>"</b>
16' 4¹/₂"	47' 0 <sup>1</sup> / <sub>2</sub> "	77' 81/2"	108' 41/2"
17' 4 <b>"</b>	48' 0"	78' 8"	109' 4"
18' 31/2"	48'11'/ <sub>2</sub> "	79' 71/2"	110' 3'/2"
19' 3"	49' 11"	80' 7"	111'3"
20' 21/2"	50' 101/2"	81' 61/2"	
21' 2"	51' 10"	82' 6"	
22' 1¹/₂ <b>"</b>	52' 9¹/₂ <b>"</b>	83' 51/2"	
23' 1*	53' 9"	84' 5"	
24' 0¹/₂"	54' 8¹/₂ <b>"</b>	85' 41/2"	
25' 0 <b>"</b>	55' 8"	86' 4"	
25′ 11¹/₂ <b>"</b>	56 7¹/₂ <b>"</b>	87' 2 <sup>1</sup> / <sub>2</sub> "	
26' 11 <b>"</b>	57' 7 <b>"</b>	88' 3"	
27' 10¹/₂ <b>"</b>	58' 6 <sup>1</sup> / <sub>2</sub> "	89' 21/2"	
28' 10 <b>"</b>	59' 6"	90' 2"	
29' 9 <sup>1</sup> / <sub>2</sub> "	60' 5 <sup>1</sup> / <sub>2</sub> "	91' 11/2"	
30' 9"	61' 5"	92' 1"	
31' 8¹/₂ <b>"</b>	62' 41/2"	93' 01/2"	
32' 8"	63' 4"	94' 0"	
33' 71/2"	64' 31/2"	94' 11'/2"	
34' 7"	65' 3"	95' 11"	
35' 61/2"	66 21/2"	96' 10¹/₂"	
	+ Any Additional Sizes	in 111/2" increments.	

### **HEIGHTS**

SINGLE PANEL WITH FLOOR WITHOUT FLOOR		DOUBLE PANEL WITH FLOOR WITHOUT FLOOR		
6'8" 7' 51/2" 8'8" 9'8" 10' 8" 12' 8" 15' 8"	6'5" 7' 2-1/2" 8'5" 9'5" 10'5" 12' 5" 15' 5"	15' 6" 17' 4" 18' 7" 20' 7" 22' 7"	15' 3" 17' 1-½" 18' 4" 20' 4" 22' 4"	4' 10"/ 9' 11" 6'8-'½"/ 9'11" 7' 11"/ 9' 11" 9' 11"/ 9' 11" 11' 11"/ 9' 11"

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# Square/Cubic Footage



			COOLERS/FREEZERS WITH FLOOP		
NOMINAL SIZE	ACTUAL SIZE W X L	INTERIOR FLOOR AREA SQUARE FOOTAGE	7'51/4" INTERIOR CUBIC FOOT VOLUME	8'8" INTERIOR CUBIC FOOT VOLUME	10'8" INTERIOR CUBIC FOOT VOLUME
6 X 6	5'-10" X 5'-10"	27	181	214	267
6 X 7	5'-10" X 6'-91/2"	32	214	253	316
6 X 8	5'-10" X 7'-9"	37	248	293	366
6 X 9	5'X-10" X 8'-81/2"	42	281	332	415
6 X 10	5'-10" X 9'-8"	47	315	372	465
6 X 11	5'-10" X 10'-71/2"	51	348	412	515
6 X 12	5'-10" X 11'-7"	56	382	451	564
7 X 7	6'-9 1/2" X 6'-9 1/2"	38	254	300	375
7 X 8	6'-9 1/2" X 7'-9"	43	294	347	434
7 X 9	6'-9 1/2" X 8'-8 1/2"	49	334	394	493
7 X 10	6'-91/2" X 9'-8"	55	373	441	551
7 X 11	6'-9 1/2" X 10-71/2"	61	413	488	610
7 X 12	6'-9 1/2" X 11'-7"	67	453	535	669
8 X 8	7'-9" X 7'-9"	50	340	401	502
8 X 9	7-9" X 8-8 1/2"	57	386	456	570
8 X 10	7'-9" X 9'-8"	64	432	510	638
8 X 11	7'-9" X 10'-7 1/2"	71	478	564	705
8 X 12	7'-9" X 11'-7"	77	524	619	773
8 X 13	7'-9" X 12'-6 1/2"	84	570	673	841
8 X 14	7'-9" X 13'-6"	91	615	727	909
8 X 15	7'-9" X 14'-5 1/2"	98	661	782	977
9 X 9	8'-8 1/2" X 8'-8 1/2"	65	438	517	647
9 X 10	8'-8 1/2" X 9'-8"	72	490	579	724
9 X 11	8'-8 1/2" X 10'-7 1/2"	80	542	641	801
9 X 12	8'-8 1/2 X 11'-7"	88	594	702	878
9 X 13	8'-8 1/2" X 12'-6 1/2"	96	647	764	955
9 X 14	8'-8 1/2 X 13'-6"	103	699	826	1032
9 X15	8'-8 1/2" X 14'-5 1/2"	111	751	887	1109
9 X 16	8'-8 1/2" X 15'-5"	119	803	949	1186
10 X 10	9'-8" X 9-8"	81	548	648	810
10 X 11	9-8" X 10'-7 1/2"	90	607	717	896
10 X 12	9-8" X 11 '-7"	98	665	786	983
10 X 1 3	9'-8" X 12'-6 1/2"	107	724	855	1069
10 X 14	9-8" X 13'-6"	116	782	924	1155
10 X 15	9'-8" X 14-5 1/2"	124	840	993	1241
10 X 16	9'-8" X 15'-5"	133	899	1062	1328
11 X 11	10-71/2" X 10-71/2"	99	671	793	992
11 X 12	10'-7 1/2" X 11'-7"	109	736	870	1087
11 X 13	10'-7 1/2" X 12'-6 1/2"	118	801	946	1183
11 X 14	10-71/2" X 13'-6"	128	865	1022	1278
11 X 15	10'-7 1/2" X 14-5 1/2"	137	930	1099	1373
11 X 16	10-71/2" X15-5"	147	995	1175	1469
11 X 17	10'-7 1/2" X 16'-4 1/2"	156	1059	1251	1564
11 X 18	10'-7 1/2" X 17'-4"	166	1124	1328	1660

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# Square/Cubic Footage \_\_\_\_



			COOL	ERS/FREEZERS W	ITH FLOOR
NOMINAL SIZE		INTERIOR FLOOR AREA SQUARE FOOTAGE	7'5'/4" INTERIOR CUBIC FOOT VOLUME	8'8" INTERIOR CUBIC FOOT VOLUME	10'8" INTERIOR CUBIC FOOT VOLUME
12 X 12	11'-7" X 11'-7"	119	807	953	1192
12 X 13	11'-7" X 12'-61/2"	130	878	1037	1296
12 X 14	11-7" X 13'-6"	140	949	1121	1401
12 X 15	11'-7" X 14'-51/2"	151	1019	1204	1506
12 X 16	11'-7" X 15'-5"	161	1090	1288	1610
12 X 17	11'-7" X 16'41/2"	171	1161	1372	1715
12 X 18	11'-7" X 17'-4"	182	1232	1456	1819
12 X 19	11'-7" X 18'-3 1/2"	192	1303	1539	1924
12 X 20	11'-7" X 19'-3"	203	1374	1623	2029
13 X 13	12-61/2" X 12-61/2"	141	955	1128	1410
13 X 14	12'-6 1/2" X 13'-6"	152	1032	1219	1524
13 X 15	12'-61/2" X 14'-51/2"	164	1109	1310	1638
13 X 16	12'-61/2" X 15'-5"	175	1186	1401	1752
13 X 17	12'-6 1/2" X 1&-4 1/2"	187	1263	1492	1865
13 X 18	12'-6 1/2" X 17'4"	198	1340	1583	1979
13 X 19	12'-6 1/2" X 18'-3 1/2"	209	1417	1674	2093
13 X 20	12'-6 1/2" X 19'-3"	221	1494	1765	2207
14 X 14	13'-6' X 13'-6"	165	1115	1318	1647
14 X 15	13'-6" X 14-51/2"	177	1198	1416	1770
14 X 16	13'-6" X 15'5"	189	1282	1514	1893
14 X 17	13'-6" X 16'-4 1/2"	202	1365	1613	2016
14 X 18	13'-6" X 17'-4"	214	1448	1711	2139
14 X 19	13-6" X 18'-3 1/2"	226	1531	1810	2262
14 X 20	13'-6" X 19'-3"	238	1615	1908	2385
14 X 21	13'-6 X 20'-2 1/2"	251	1698	2006	2508
15 X 15	14'-5112" X 14'-51/2"	190	1288	1522	1902
15 X 16	14'-5 1/2" X 15'-5"	203	1377	1627	2034
15 X 17	14-5 1/2" X 16'-4 1/2"	217	1467	1733	2166
15 X 18	14-5 1/2" X 17'-4"	230	1556	1839	2299
15 X 19	14-5 1/2" X 18-3 1/2"	243	1646	1945	2431
15 X 20	14-5 1/2" X 19'-3"	256	1735	2050	2563
15 X 21	14'-5 1/2" X 20'-2 1/2"	270	1825	2156	2695
15 X 22	14'-5 1/2" X 21'-2"	283	1914	2262	2827
16 X 16	15'-5" X 15-5"	218	1473	1741	2176
16 X 17	15'-5" X 16-4 1/2"	232	1569	1854	2317
16 X 18	15'-5" X 17'-4"	246	1664	1967	2458
16 X 19	15'-5" X 18-3 1/2"	260	1760	2080	2600
16 X 20	15'-5" X 19'-3"	274	1856	2193	2741
16 X 21	15-5" X 20'-2 1/2"	288	1952	2306	2882
16 X 22	15-5" X 21'-2"	302	2047	2419	3024
17 X 17	16'-4 1/2" X 16'-4 1/2"	247	1671	1974	2468
17 X 18	16'-4 1/2" X 17'-4"	262	1773	2094	2618
17 X 19	16'-4 1/2" X 18'-3 1/2"	277	1875	2215	2769
17 X 20	16-41/2" X 19'-3"	292	1976	2335	2919

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## **SPECIFICATIONS**

### GENERAL

☐ CHS-1716-C Type 302 (18-8) stainless steel hand sink. Basin has 1-3/4" (45mm) radius coved corners. Full length 7" (178mm) high back splash. Exposed surfaces have a brushed finish. Furnished with a wall hanger and integral stainless steel support brackets. Carries NSF International Certification.

### FURNISHED COMPLETE WITH:

SUPPLY: LK-499 chrome plated gooseneck spout faucet with aerator.

DRAIN: LK-8.

TRAP: LK-500 satin chrome tubing "P" trap with cleanout, waste arm to wall, and wall flange.

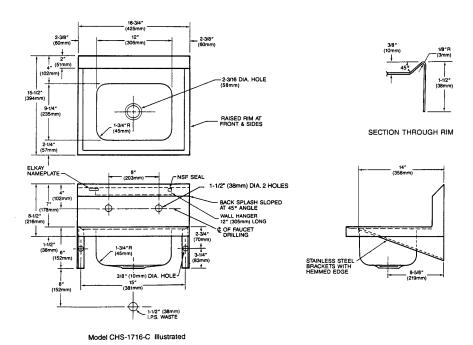
# FOLLOWING MODEL DOES NOT INCLUDE FAUCET AND FITTINGS:

☐ CHS-1716

Specify faucet drillings and location.



CHS-1716-C Shown



**Elkay Manufacturing Company** 

2222 Camden Court Oak Brook, IL 60523 Printed in U.S.A. ©1997 Elkay Mfg. Co. (Rev. 6/97) 4-1D

### **OUTSTANDING** STANDARD **FEATURES**

 Energy Efficient - High production and Readily Convertible to:

Hot Water Sanitizing – 150°F Wash Temperature minimum, 180°F Final Rinse, 53 racks per

Chemical Sanitizing - Normal Duty - 120°F Minimum Wash and Final Rinse Temperature (140°F Recommended), Injection of Sodium Hypochlorite required, 62 racks per hour.

Chemical Sanitizing - Light Duty - 130°F Minimum Wash and 120°F Minimum Final Rinse Temperature (140°F Recommended), Injection of Sodium Hypochlorite required, 80 racks per hour.

- Low water consumption (1.2 gallons/rack).
- · Rinse system with exclusive Sani Dwell Cycle (Hot Water Sanitizing only).
- · Microcomputer controls.
- · LED Display of Cycles (Fill, Wash, Rinse) and Temperature.
- · Built-in service aids for enhanced serviceability.
- · Choice of Electric Heat, Gas Immersion Tube Heat, or
- · Steam Injectors.
- Microcomputer control of water temperature and positive protection against tank heat damage.
- · All stainless steel revolving upper and lower interchangeable wash arms.

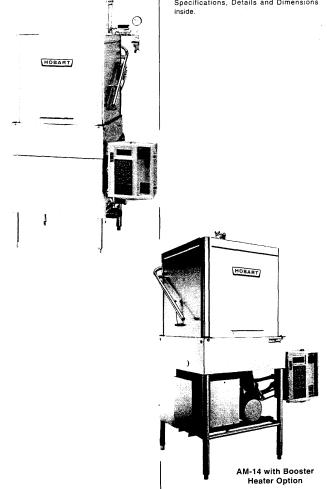
# AM-14 AM-14C DISHWASHERS

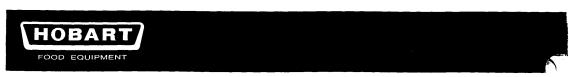
- · All stainless steel revolving upper and lower rinse arms.
- Microcomputer controlled motor protection.
- · Door actuated drain closer.
- Exclusive all stainless steel interior.
- · Self-flushing stainless steel strainer pans.
- · Large, removable scrap basket.

- · Snap-in stainless steel front panel (on AM-14).
- Field adjustable control box height 45/8" to 125/8" to table.
- Inspection Door (on AM-14).
- · Manual By-Pass Controls.

All of these standard features make this Hobart AM Dishwasher an outstanding value for exceptional dishwashing performance, with built-in Hobart reliability.

Specifications, Details and Dimensions





### **DETAILS, DIMENSIONS AND CONNECTIONS AM-14**

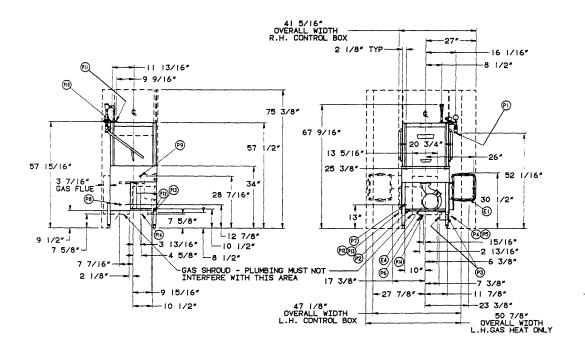
GAS HEATED DISHWASHERS WARNING FOR NATURAL GAS, PRESSURE TO THE BURNER (CUSTOMER CONNECTION) SHOULD NOT EXCEED 7" N.C. ELECTRICAL AND GROUNDING CONNECTIONS
MUST COMPLY WITH THE APPLICABLE
PORTIONS OF THE MATIONAL ELECTRICAL
CODE AMD/OR OTHER LOCAL ELECTRICAL CODES. CONNECTION SOURCE DETROITED FOR LIQUIFIED PETROLEUM GAS, PRESURE TO THE BURNER (OUSTONER CONNECTION) SHOULD NOT EXCEED 11" V.C. A PRESSURE THAT OF THE MUST DE INSTALLED (BY OTHERS) IN THE GAS A LINE TO THE DISHMASHER. PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY. AND PLUMBING CODES. GAS HEAT BTU INPUT - 20,000 NATURAL 20,000 PROPANE PLUMBING NOTES: WATER HANNER ARRESTOR (MEETING ASSE-1010 STANDARD OR EQUIVALENT) TO BE SUPPLIED (BY OTHERS) IN COMMON WATER SUPPLY LINE AT SERVICE COMMETION. RECOMMENDO WATER MARNESS TO BE 2-6 MAINS FOR BEST RESULTS.

RECOMMENDED BUILDING FLOWING WATER PRESSURE TO THE

DISMASSER IS 20-22 PG.II FPRESSURES WIGHT THOUGH THAN 2P BI

ARE PRESSY! A PRESSY REGULATING WALVE MAST BE SUPPLIED

(BY OTHERS) TO THE WATER LIKE TO THE DISMASSER. 14 1/4"-12 11/16" FOR CONVENIENCE WHEN CLEANING, WATER TAP SHOULD BE INSTALLED NEAR MACHINE WITH HEAVY DUTY HOSE AND SQUEEZE VALVE. 11" I" MIN CLEARANCE FROM FLUE (GAS) 8 3/16"-FLOWING STEAM PRESSURES ABOVE 50 PSI MUST HAVE A PRESSURE REQULATOR (NOT SUPPLIED) INSTALLED IN THE STEAM LINE. 2 5/16" 4 1/2" MIN CLEARANCE-FROM CHAMBER (STEAM OR ELECTRIC) SHUT OFF VALVE MUST BE SUPPLIED (BY OTHERS) IN THE STEAM LINE TO THE DISHMASHER. -14 9/16\* Ð WĄĽL MISCELLANEOUS NOTES: ALL CIMENSIONS TAKEN FROM FLOOR LINE MAY INCREASE 3/4" OR DECREASE 1/2" DEPENDING ON LEG ADJUSTMENT. 15 3/167 NET WEIGHT OF MACHINE: 360 LBS. (INCLIDING 4 RACKS) W/O BOOSTER DOMESTIC SHIPPING WEIGHT: 450 LBS. (INCLIDING 4 RACKS) W/O BOOSTER 14 5/16" NET WEIGHT OF MACHINE: 4D2 LBS. (INCLUDING 4 RACKS) W/ BOOSTER DOMESTIC SHIPPING WEIGHT: 492 LBS. (INCLUDING 4 RACKS) W/ BOOSTER 29 1/8" DOPES ILL STATE FOR MEASURE TO A 19-3/4" DRAIN LEVER LOSS (19-3/4" X 19-3/4" X 19-3/4" DRAIN LEVER LOCATED INSIDE TANK. VERY LOCATED INSIDE TANK. VERY LOCATED IN MOTOR CONTROL BOX IS ADJUSTABLE TO 4-5/8 STANDARD OR 12-5/8. 1 12 5/8" € **⊚**€



## AM-14 AM-14C **DISHWASHERS**

CONNECTION INFORMATION
(\*AFF - ABOVE FINISHED FLOOR) LEGEND

- EI ELECTRICAL CONNECTION, MOTORS & CONTROLS (INCLUDING ELECTRIC HEAT WEN SPECIFIED), 1-1/4" CONDUIT HOLE, 15-15/16" AFF.
- E2 ELECTRICAL CONNECTION, DETERGENT FEEDER, 3/4° CONDUIT HOLE, 17-3/4° AFF.
- ELECTRICAL CONNECTION: RINSE AGENT & SANITIZER FEEDERS. 3/4" CONDUIT HOLE, 22-1/8" AFF.
- ELECTRICAL CONNECTION, BOOSTER, 1/2", 3/4", OR 1" CONDUIT HOLE, 10-1/2" AFF. AVAILABLE ON STEAM OR ELECTRIC TANK HEAT MACHINES ONLY.
- 10-12" AF. ANALUSE DN STEM OF ELETRIC YAM HEAT MACHINES ON COMEN WATER CONNECTION, INVO BOOSTER!
  (1807 F WATER KIN. HOT WATER SANTITIZING)
  (1807 F WATER KIN. CHEMICAL SANTITIZING)
  (1807 F WATER KIN. CHEMICAL SANTITIZING-LIGHT DUTY)
  (1807 F WATER KIN. CHEMICAL SANTITIZING-LIGHT DUTY)
  (1807 F WATER KIN. HOT WATER SANTITIZING)
  (1807 F WATER KIN. HOT WATER SANTITIZING

- 374" PFT, 6-374" AFF.

  STEAM COIL, (MEN) ROBSED): 10 TO 25 PST
  FLORING, 50 PST NAX., 374" PFT, 6-374" AFF.

  COMENSATE RETURN (STEAM COIL-MEN GOORDE); 10 TO 50 PST FLOWING,

  374" PFT, 7-1/4" AFF. (MUDGET TYPE TRAP FLORISHED).

  STED ASSEMBLY TO ACCESS 174" HOLE, 13" AFF DELVIC CAP AND

  STLD ASSEMBLY TO ACCESS 174" HOLE, 13" AFF DELVIC CAP AND

  STLD ASSEMBLY TO ACCESS 174" HOLE, 12" AFF DELVIC CAP AND

  STLD ASSEMBLY TO ACCESS 174" HOLE, 12"-74" AFF

  POST ACCESS 174" HOLE, 12"-74" AFF.

  STLD ASSEMBLY TO ACCESS 174" HOLE, 12" AFF.

  STLD ASSEMBLY TO ACCESS 174" HOLE, 12" AFF.

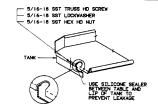
  STLD ASSEMBLY TO ACCESS 174" HOLE, 12" AFF.

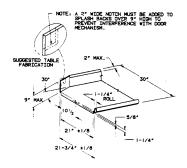
  ST
- PB

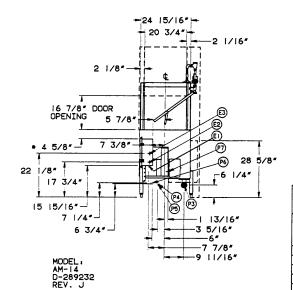
- 7/8" HOLE, 38-7/16" AFT.

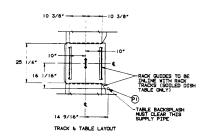
  PIO PINSE COURT FEEDER 1/8" MPT, PERONE 1/8" MPT,
  PIDE PLUE TO ACCESS TAPPED HOLE, 57-15/16" AFT,
  PII SANTITUSE FEEDER, (NORMAL/LIGHT DUTY) LISE MPT, REMOVE 1/8" MPT
  PIDE PLUE TO ACCESS TAPPED HOLE, 37-15/16" AFF,
  PIC ALS CONSCITUTE MIT. (MEDI ORGERED);
  1/2" FPT, 8-1/2" AFT.

- PIS GAS CONNECTION L.P. (WHEN GROERED),
  1/2" FPT, 8-1/2" AFF.
  PIS GAS CONNECTION L.P. (WHEN GROERED),
  1/2" FPT, 8-1/2" AFF.
  PIS GROENE-TOPPERATURE PELIED VALVE, WHEN SCOSTER IS SPECIFIED, 3/4" F.P.T.,
  HAST SE PIPED TO UPEN GRAIN RECEIVER IN THE FLOOR, 7-5/8" AFF.









BOOSTER	MPACIT	Y RATINGS	10 KW	BOOSTER ELECTRICAL SPECIFICATIONS
				200/60/1
ł		MINIMUM	MAXIMLM	230/60/1
ELEC.	RATED	CIRCUIT	OVERCURRENT	200/60/3
SPECS.	AMPS	CONDUCTOR	PROTECTIVE	230/60/3
		AMPACITY	DEVICE	460/60/3
200/60/1	48	60	60	• 220/50/1
230/60/1	45.5	60	60	• 200/50/3 • 240/50/3
200/60/3	27.7	40	40	THESE ELECTRI
230/60/3	26.3	40	40	SPECIFICATION
460/60/3	13.1	20	20	ARE NOT SUBMI

AM-14 WITH STEAM OR GAS HEAT						
ELEC. SPECS.	RATED	MINIMUM SUPPLY CIRCUIT CONDUCTOR AMPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE			
100-120/60/1	19.7	25	25			
200-230/60/1	11.4	15	15			
200-230/60/3	7.6	15	15			
400-460/60/3	5.3	15	10			

ELEC. SPECS.	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR	MAXIMUM OVERCURREN PROTECTIVE DEVICE
100-120/60/1	60.8	80	80
200-230/60/1	39.9	50	50
200-230/60/3	23.9	30	30
400-460/60/3	15	15	15

MACHINE ELECTRICAL SPECIFICATIONS SPECIFICATIONS
100-120/60/1
200-230/60/1
200-230/60/3
400-460/60/3
115/50/1
220/50/1
220/50/3
380/50/3 THESE ELECTRICAL SPECIFICATIONS ARE NOT SUBMITTED FOR UL LISTING





### STANDARD DESIGN FEATURES



**PUMP:** High efficiency self-draining pump assures maximum cleanliness and sanitation.



CONTROL BOX: Mounted on right side of machine, below table level, to provide easy access to the microcomputer controls. Field adjustable in height from floor 4%" to 12%".



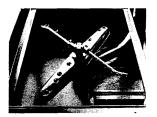
**DOOR CYCLE SWITCH:** Automatically starts the washrinse timer program when doors are closed. Door cycle switch turns off power to pump if doors are opened while machine is operating and resets timer program to start position.



AUTOMATIC TEMPERATURE CONTROL AND POSITIVE LOW-LEVEL WATER PROTECTION: The stainless steel probe contains a Thermistor Sensor for water temperature control and a Reed Switch works in conjunction with the float (below the probe) for positive low-level water protection.



UPPER WASH & RINSE ASSEMBLY: Wash arm – all stainless steel (Hobart exclusive design) provides improved washability. Interchangeable with lower wash arm. Revolving upper rinse arm assures efficient, effective rinse coverage.



**LOWER WASH AND RINSE ARMS:** Wash arm — all stainless steel, interchangeable with upper wash arm. Lower revolving rinse arm assures effective rinse coverage.



**REMOVABLE SCRAP BASKET:** Stainless steel, self-flushing strainer pan and removable scrap basket for easy cleaning.



**AUTOMATIC DRAIN SHUT-OFF:** Door actuated, automatically closes drain when doors are lowered.

### AM-14 AM-14C DISHWASHERS

HOBART
FOOD EQUIPMENT

SPECIFICATIONS Listed by Underwriters Laboratories Inc. and by NSF International.

Meets Requirements of A.S.S.E. Standard No. 1004.

The microcomputer-based control system is built into the AM-14 Series Dishwashers. Model AM-14 is for straight-through operation with a third (front) door for inspection, and AM-14C for corner installation. Each is available in standard electrical specifications of 100-120/60/1, 200-230/60/1, 200-230/60/3, 400-460/60/3 and all are equipped with a reduced voltage pilot circuit transformer.

\*CAUTION: CERTAIN MATERIALS, INCLUDING SILVER, ALUMINUM AND PEWTER ARE ATTACKED BY SODIUM HYPOCHLORITE (LIQUID BLEACH) IN THE CHEMICAL SANITIZING DISHWASHER MODE OF OPERATION. WATER HARDNESS MUST BE CONTROLLED TO 2-6 GR. FOR BEST RESULTS.

CONSTRUCTION: Tank and wash chamber constructed of #16 gauge stainless steel, arc-welded. Unitized welded stainless steel tank, frame and stainless steel feet. Wash chamber and front of tank above motor compartment are polished satin finish. New stainless steel snap-in front panel — no faster are required.

DOOR LIFT: Doors coupled by chromeplated door handle, spring counterbalanced (except the front inspection door). All doors guided for ease of operation and long life.

PUM 2: With Ni-Resist impeller, integral with mote assures alignment and quiet operation. Pum 3 shaft seal with stainless steel parts and a combon ceramic sealing interface. Easily and a combon ceramic sealing interface. Easily and a combon ceramic sealing interface. Easily more provided impeller housing permits ease of spection. Capacity 160 GPM. Pump is ampletely self-draining.

IOTOR: Hobart-built, 1 H.P., with solid state thermal protection, grease-packed ball bearings, splashproof design, ventilated. Single-phase is capacitor-start, induction-run type. Three-phase is squirrel-cage, induction type.

MICROCOMPUTER CONTROL SYSTEM: Hobart microcomputer controls, assembled within water-protected enclosure, provide built-in performance and reliability.

The microcomputer control, switches and contactors are housed in a single enclosure, mounted on right-hand side of dishwasher below table level. Control enclosure is field adjustable to an alternate lower position to clear standard 12" deep table trough of table sink installation. The line voltage electrical components are completely wired with 105°C, 600V thermoplastic insulated wire with stranded conductors and routed through listed electrical conduit. Low-voltage electrical components are wired with type ST cord. Line disconnect switch NOT furnished.

CYCLE OPERATION: The microcomputer timing program is started by closing the doors, which actuates the door cycle switch.

The microcomputer energizes the wash pump motor contactor during the wash portion of the program. After the wash, a dwell permits the upper wash manifold to drain. At the end of the dwell, the final rinse solenoid valve is energized; after the final rinse valve closes, Sani-Dwell (Hot Water Mode only) permits sanitization to continue. The Rinse LED remains on during this period, completing the program. If the microcomputer is interrupted during a cycle by the door-cycle switch, the microcomputer reset to the beginning of the program. Hot Water Sanitizing - 62 seconds (53 Racks/ hr.): 40 Second Wash, 4 Second Dwell, 9 Second Rinse, 9 Second Sani-Dwell. Chemical Sanitizing (Normal Duty) - 53 Seconds (62 Racks/hr.): 40 Second Wash, 4 Second Dwell, 9 Second Rinse, Chemical Sanitizing (Light Duty) - 40 Seconds (80 Racks/hr.): 27 Second Wash, 4 Second Dwell, 9 Second Rinse (130°F Minimum). All of the above programs and many more can be pre-selected by your Hobart service

WASH: Hobart revolving stainless steel wash arms with unrestricted openings above and below provide thorough distribution of water jets to all dishware surfaces. Arms are easily removable for cleaning and are interchangeable. Stainless steel tubing manifold connects upper and lower spray system.

RINSE: Eleven overhead rotating rinse spray nozzles with two nozzles mounted to spray and sanitize the interior of the chamber. The stainless steel upper and lower rinse arms are easily removable without tools and feature curved ends for greater uniformity of rinse coverage. Lower revolving rinse arm with nine nozzles lifts out for inspection. Diaphragm-type rinse control solenoid valve mounted outside machine. Machine is equipped with special hot water vacuum breaker on downstream side of rinse valve — mounted 6" above uppermost rinse opening. Easy open brass line strainer furnished.

FILL: Microcomputer controlled fill valve installed on upstream side of rinse vacuum breaker. Ratio fill method is used giving the correct fill at any flowing water pressure. (20 PSIG necessary for proper rinsing.)

DRAIN AND OVERFLOW: Large bell type automatic overflow and drain valve controlled from inside of machine. Drain automatically closed by lowering doors. Drain seal is large diameter, high temperature "O" ring. Cover for overflow is integral part of stainless steel strainer system.

STRAINER SYSTEM: Equipped with large, exclusive self-flushing, easily removable perforated stainless steel strainer and large capacity soil basket. Submerged soil basket minimizes frequent removal and cleaning.

**HEATING EQUIPMENT:** Standard tank heat is 5KW electric immersion heating element. Regulated power immersion tube gas burner system is optional at extra cost. A solid-state ignitor board controls the gas valve and provides flame ignition. A transformer steps the control circuit voltage down to 24 volts to power the ignitor board and gas valves. Gas Heated Dishwasher: For natural gas, gas pressure (customer connection) not to exceed 7" W.C. For liquefied petroleum, gas pressure to burner (customer connection) not to exceed 11" W.C. If gas pressure is higher than 7" W.C. natural or 11" W.C. LP, a pressure regulating valve must be supplied (by others) in the gas line to the dishwasher. Regulated 3/4" steam injector optional at extra cost. Water temperature regulation is controlled by thermistor sensor in combination with microcomputer controls. The tank heat and positive low water protection microcomputer circuits are automatically activated when the main power switch is turned "on". If tank is accidentally drained, low water protection device automatically turns heat off. Gas immersion tube is additionally protected by a high limit device mounted on the surface of the tube. These features are standard with the Hobart Microcomputer Control System.

STANDARD EQUIPMENT: In addition to the standard features listed on the front are the following—latest design door cycle switch, ratio fill, stainless steel adjustable feet. Adjustable height control panel. Chamber, tank and all doors of 16 gauge stainless steel. Detergent injector and sensing connections provided as well as connection in fill line for rinse agent and sanitizer dispensing. Manual by-pass switch.

OPTIONAL EQUIPMENT AT EXTRA COST – ELECTRIC BOOSTER HEATER: Electric booster adequately sized to raise 120°F inlet water to 180°F. Pressure/temperature relief valve and pressure gauge for incoming

Peg and Combination 19¾" x 19¾" Hobart heavy duty all-plastic racks.

ACCESSORIES: Desirable functional accessories can be furnished at added cost. See listed options and accessories on this specification sheet. Write to the factory for special requirements not listed above.

As continued product improvement is a policy of Hobart specifications are subject to change without notice.



701 RIDGE AVENUE TROY, OHIO 45374-0001

LITHO IN U.S.A. (H-02)



FORM F-8091 (REV. 896)

Qty. \_\_\_\_\_ Item No.



### FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

### MEDIUM SIZE FAST, ECONOMICAL

In a profitable foodservice operation, there's no space, time or budget allowance for inefficient food waste handling. Here are the medium sized disposers that can end food waste storage, removal and clean-up – fast, economically.

### **SPECIFICATIONS**

Listed by Underwriters Laboratories Inc. and meets requirements of A.S.S.E. Standard No. 1009 (50 Hz. Electrical Specifications not U L Listed).

MOTORS: Continuous duty rating, equipped with manual reset thermal overload inherent protection. Permanently lubricated ball bearings for upper and lower shaft support.

HOUSINGS: Heavy aluminum grind and discharge housings. Four bolts fasten the motor unit to the grind chamber, permit easy removal.

LEGS: Tubular stainless steel with bullet feet to support housing. Adjustable to 3 inches in either direction.

MOUNTING: All Hobart Disposers fasten to 7" I.D. (throat opening) cones. A vinyl isolating ring eliminates metal-to-metal contact at the cone mounting, reduces vibration and noise transmission.

STATIONARY SHREDDER RING: Abrasion resistant, Ni-Hard, 2½" high, 4 machine ground primary action breaker bars, 42 secondary action grinding teeth.

FLYWHEEL: Offset breaker blade, mounted at center, speeds grinding, prevents objects from "riding" at center. Two hardened stainless steel cutter blocks (fastened to flywheel with nylon locking screws) are replaceable, can be indexed for new cutting edges. Corrosion resistant Ni-Resist flywheel is 7% diameter, slots undercut the shredder ring to assure that particles are cut to proper size before passing to the drain line.

MOTOR SHAFT SEAL: Face-type seal consists of sintered bronze mating ring and spring loaded carbon ring insert in chemical resistant neoprene bellows. Mating surfaces are protected from grit or fibers by being recessed into flywheel. Should any moisture pass this seal, a flinger and drain tube are provided to insure immediate removal. In addition, a lip-type oil seal (located beneath the bearings) is an "added protection"

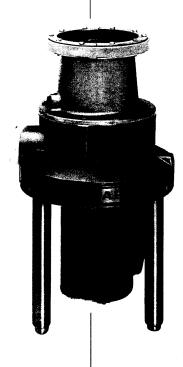
**DRAIN CONNECTOR**: The removable outlet flange is tapped for 2" pipe connection.

DUAL DIRECTIONAL GRINDING: Hobart Disposers operate in either direction of flywheel rotation. Direction of rotation can be controlled by the

of rotation can be controlled by the operator (to increase life and efficiency of grinding elements – back flywheel free of a "jam") when installed with Control Groups 2 or 3.

**WEIGHT:** Shipping – Approx. 95 lbs. (does not include accessory group or controls).

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.



# FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

### **ACCESSORY GROUPS**

### **GROUP A**



Nitrile Rubber Scrapping Ring



Stainless Steel Silver-Saver Sleeve with Side Feed Hole



Water Swirl



Vacuum Breaker

### GROUP B



Nitrile Rubber Silver-Saver Splash Guard Ring



Water Swirl



Vacuum Breaker

### **GROUP C**



Nitrile Rubber Silver-Saver Splash Guard Ring



Vacuum Breaker



Pre-Rinse Spray with Wall Bracket

### **GROUP D**



Nitrile Rubber Silver-Saver Splash Guard Ring



7" I.D. Stainless Steel Weld-in Adapter for Sink



Fixed Direction Water Inlet for Sink



Vacuum Breaker

### **ACCESSORY COMPONENTS**

# CONES-SINK – Stainless Steel Part No.





Sink 16" x 20" x 7" (7" opening) w/hole for water inlet ......... 204015-2

### WATER INLETS



Cone Water Swirl Inlet 1/2" N.P.T. ......204380



Fixed Direction Water Inlet (for sinks or troughs) ½" N.P.T. ......................204346

### FLOW CONTROL



8 Gallons per minute for Models FD3-150 through FD3-300 ¾" N.P.T. .....204368

### CONE COVER -STAINLESS STEEL



15" Cone Cover w/feed hole ...... 204024 18" Cone cover w/feed hole ...... 204023

### CONE FEEDING ACCESSORIES



Part No.

Nitrile Rubber Scrapping Ring ... 202113



### SILVER-SAVER SPLASH GUARD RING



Nitrile Rubber Silver-Saver and Splash Guard Ring (for 7" opening cones, sinks and adapter) ......202120

# SINK ADAPTER – Standard Group D Accessory



7" I.D. Stainless Steel Adapter for Welding to Sink or Trough ...... 204853

### VACUUM BREAKERS – Luster Chrome Plated



.....74338

### PRE-RINSE SPRAYS

PR-3 Heavy duty Flexible Pre-rinse Spray (38" high with wall bracket) ML-32333





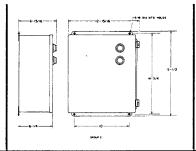
PR-4 Utility Spray (with wall bracket) ML-32334

Adapters are available to install Hobart Disposers on existing cones. See Form F-7543.

# FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

**ELECTRICAL CONTROL GROUPS** Listed by Underwriters Laboratories Inc., for use with FD3 Disposers (50 Hz. Electrical Specifications not UL listed)

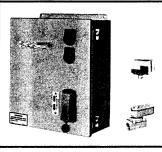


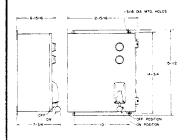


### Group 2 - For all Models

Includes: Magnetic Contactors Pushbutton Start and Stop Automatic Reversing NEMA 12 Enclosure Solenoid Valve

> Approximate Shipping Wt. 31 lbs.



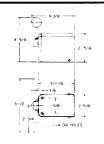


### Group 3 - For all Models

Includes:
Magnetic Contactors
Pushbutton Start and Stop
Automatic Reversing
Low Water Pressure Cut-off
Time Delay for water after shut-off
Line disconnect
Solenoid Valve
NEMA 12 Enclosure

Approximate Shipping Wt. 38 lbs.





# Group 4 - For Model FD3-150 and FD3-200

Includes: Manual Reversing Switch NEMA 1 Enclosure or NEMA 4 Enclosure Not available above 250 volts Optional Solenoid Valve

> Approximate Shipping Wt. 11 lbs.

Model	H.P.	Ph.	Hz.	Voits	Rated Amps
	11/2	1	60	120/208-240	17.2/8.2-8.6
FD3-150	11/2	3	60	208-240/480	4.8-4.8/2.4
FD3-200	2	1	60	120/208-240	20.0/10.0
1 03-200	2	3	60	208-240/480	6.8-6.5/3.3
FD3-300	3	3	60	208-240/480	9.0-8.0/4.0
ED0 450	1½	1	50	110-120/220-240	See customer service
FD3-150	11/2	3	50	220-240/380-415	5.7-6.1/2.7-2.7
FD3-200	2	1	50	110-120/220-240	See customer service
1 55-200	2	3	50	220-240/380-415	6.7-7.0/3.4-3.4
FD3-300	3	3	50	220-240/380-415	9.0-8.7/4.8-4.6

The slant (/) indicates the dual voltage operation accomplished by motor lead connection follow connecting diagram on motor.

### SAMPLE SPECIFICATION

FD3-200 — B — 2 (240/60/3)

Electrical Specifications
Electrical Control Group

**Accessory Group** 

### Model Number

Cut hole 19" for 18" cone. Hole to be 16" for 15" cone.

Solenoid must be installed in upright position.

Disposer may be easily rotated for better drain line connection.

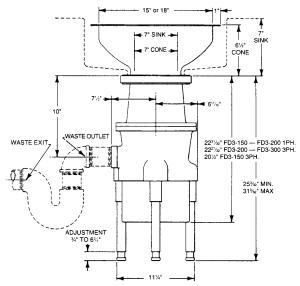
Center line at wall outlet of trap should not be higher than center line of disposer discharge opening

If water pressure is in excess of 60 P.S.I. install a pressure reducing valve.

## FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

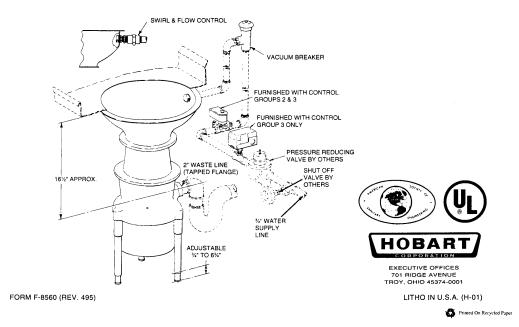


### **DETAILS AND DIMENSIONS**



NOTE: Specify 15" or 18" Cone When Desired.

### TYPICAL INSTALLATION



Item #	
Quantity	
	C.S.I. Section 1144

HOBART

TURBQ VASH

### STANDARD FEATURES

- Type 304 polished stainless steel construction.
- 14 gauge stainless tanks and drain boards.
- 11" high x 2½" deep back splash.
- Sink front trim panel.
- Eight 1½" diameter wash nozzles.
- Removable, welded H frame leg sets and adjustable bullet feet.
- Detachable and adjustable height cross rails.
- Dual inlet strainers.
- Centrifugal pump with 4" diameter intake and 3" diameter outlet.
- 2 H.P. totally enclosed (TEFC) wash pump motor with permanently sealed bearings.
- Thermal overload and low water protection for wash pump.
- Automatic motor overload reset, manual restart required.

DIRECTION	I FROM S	OILED T	O CLEA	N END
-----------	----------	---------	--------	-------

- ☐ Right to Left
- ☐ Left to Right
- **VOLTAGE**
- □ 208-240/60/1
- 208-240/60/3
- 3 480/60/3

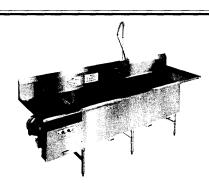
### **OPTIONS AT ADDITIONAL COST**

- ☐ 2" IPS Sink Drains (shipped loose).
- ☐ 2" IPS Sink Drains w/Overflow (drains shipped loose).
- ☐ ¾" Mixing Faucets (shipped loose). Qty.\_\_\_

- ☐ 1/2" Pre-Rinse Spray (shipped loose).
- Wash Sink Heater with high temperature and low water protection.
- Adjustable (by Hobart service) Pump Shutdown Timer.
- ☐ High Volume Wash Sink Sump (12" x 12" x 31/8" deep) with removable strainer.
- Wash Sink Separator at 36" (for wash sinks 42" or larger).
- ☐ Auto Fill.
- Utensil Basket.

15" Deep Over shelves with Wall Bracket
---

- 4' Over Shelf
- ☐ 6' Over Shelf
- 8' Over Shelf
- □ 10' Over Shelf□ 12' Over Shelf (split 6' and 6')
- ☐ 14' Over Shelf (split 8' and 6')
- ☐ 16' Over Shelf (split 8' and 8')
- ☐ 18' Over Shelf (split 10' and 8')
- ☐ 20' Over Shelf (split 10' and 10')
- ☐ Under Shelf for Clean End Drain Boards 30" and over



A SOILED END EDGE SELECTION  0" wide/2" high Hemmed edge (not shown) ] 1-1/2" wide/2" high Rolled edge (shown) ] 2-1/2" wide/1" high End splash (not shown)	B SOILED END DRAIN BOARD OF 12 0 42' 0 20' 0 48' 0 30' 0 60'	C. WASH SINK 30' 148' 32' 54' 36' 60'	= A+B+C+D+E+F+ D RINSE SINK   Omit   24"   15"   30"   18"   36"   20"   Order 2 faucets if ordering these sizes	E SANITIZER SINK 24" 30" 30" 36"	F CLEAN END	G  CLEAN END EDGE SELECTION  O' wide/2' high Hemmed edge (not shown)  D 1-1/2' wide/2' high Rolled edge (sfrown)  D 2-1/2' wide/ 11' high End splash (not shown)
splash (not shown) □ Dishmachine connection Minimum 36 Drain Board required					=====================================	□ Dishmachine connection Minimum 20° Drain Board required

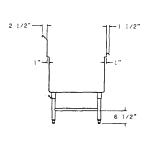
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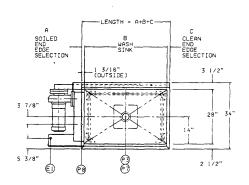
HOBART

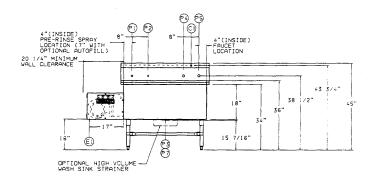
Qty.











CONNECTION INFORMATION (\*AFF - ABOVE FINISHED FLOOR)

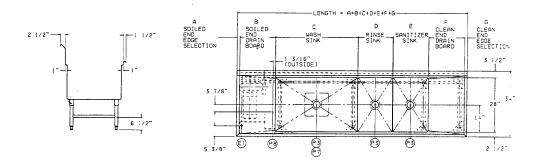
- ©1 DETERGENT CONNECTION:
  WASK SINK
  44" AFF.
- (E) ELECTRICAL CONNECTION: MOTORS & CONTROLS (INCLUDING ELECTRIC HEAT WHEN SPECIFIED) 16" AFF.
- PI HOT WATER CONNECTION: PRE-RINSE SPRAY: 1" DIAMETER HOLE 38-1/2" AFF.
- P2 COLD WATER CONNECTION: PRE-RINSE SPRAY: I" DIAMETER HOLE 38-1/2" AFF.
- P3 SINK DRAIN: 3-1/2" ID DRAIN DEPRESSION 15-7/16" AFF.
- P4 HOT WATER CONNECTION: MIXING PAUCET:)-1/4" DIAMETER HOLE 38-1/2" AFF.
- (PS) COLD WATER CONNECTION: MIXING FAUCET::-1/4" DIAMETER HOLE 38-1/2" AFF.
- (P7) OPTIONAL SINK STRAINER DRAIN: 3-1/2" ID DRAIN DEPRESSION 12-5/8" AFF.
- (P8) OPTIONAL AUTOFILL HOT WATER CONNECTION: 3/4" F.P.T. 26 9/16" AFF.

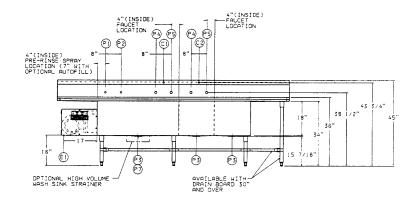
ELECTRICAL AND GROUNDS CONNECTIONS
MUST COMPLY WITH THE APPLICABLE
PORTIONS OF THE NATIONAL ELECTRICAL
CODE AND/OR OTHER LOCAL ELECTRICAL CODES.
PLUMBING CONNECTIONS.SINK AND BRAIN BOARD SIZES
MUST COMPLY WITH APPLICABLE SANITARY. SAFETY.
AND PLUMBING CODES.

NOTE: RECOMMENDED 10" AFF WALL DRAIN LOCATION
MISCELLANGEOUS NOTES:
ALL DIMENSIONS TAKEN FROM FLOOR LINE
MAY INCREASE 3/4" ON ECREASE 1/2"
DEPENDING ON LEG ADJUSTMENT.
NET WEIGHT OF MACH.NE: 18D\*
DOMESTIC SHIPPING WEIGHT: TBD\*

(w/0		DWASH TRIC HEAT:	,
ELEC. SPECS.	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR AMPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE
208-240/60/1	9.2	15	15
208-240/60/3	6.4	15	15
480/60/3	3. 2	15	15

TURBOWASH WITH ELECTRIC HEAT								
ELEC: SPECS:	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR AMPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE					
208-240/60/1	20.2	30	30					
208-240/60/3	17.4	20	20					
480/60/3	8. 7	15	15					





CONNECTION INFORMATION (\*AFF - ABOVE FINISHED FLOOR)

- ©1 DETERGENT CONNECTION:
  WASK SINK
  44" AFF.
- © SANITIZER CONNECTION: SANITIZER SINK 44" AFF.
- E) ELECTRICAL CONNECTION: MOTORS & CONTROLS (INCLUDING ELECTRIC HEAT WHEN SPECIFIED) 16" AFE
- P1 HOT WATER CONNECTION:
  PRE-RINSE SPRAY:1" DIAMETER HOLE
  38-1/2" AFF.
- (P2) COLD WATER CONNECTION:
  PRE-RINSE SPRAY: 1" DIAMETER HOLE
  38-1/2" AFF.
- P3 SINK DRAIN: (3 CONNECTIONS) 3-1/2" ID DRAIN DEPRESSION 15-7/16" AFF.
- (P4) HOT WATER CONNECTION: MIXING FAUCET:1-1/4" DIAMETER HOLE 38-1/2" AFF.
- (F) COLD WATER CONNECTION:
  MIXING FAUCET: 1-1/4" DIAMETER HOLE
  38-1/2" AFF.
- (P7) OPTIONAL SINK STRAINER DRAIN: 3-1/2" ID DRAIN DEPRESSION 12-5/8" AFF.
- (P8) OPTIONAL AUTOFILL HOT WATER CONNECTION:

WARNING

ELECTRICAL AND GROUNDING CONNECTIONS

MUST COMPLY WITH THE APPLICABLE

PORTIONS OF THE NATIONAL ELECTRICAL

CODE AND/OR OTHER LOCAL ELECTRICAL

PLUMBING CONNECTIONS, SINK AND DRAIN BOARD SIZES

MUST COMPLY WITH APPLICABLE SANITARY, SAFETY,

AND PLUMBING CODES.

NOTE: RECOMMENDED 10" AFF WALL DRAIN LOCATION (7" AFF FOR OPTIONAL WASH SINK STRAINER) MISCELLANGOUS NOTES: ALL DIMENSIONS TAKEN FROM FLOOR LINE MAY INVERSE 3/4" OR DECRESE 1/2" DEPENDING ON LEG ADJUSTMENT. NET WEIGHT OF MACHINE: DOMESTIC SHIPPING WEIGHT: TBD\*

(W/O		DWASH TRIC HEAT	
ELEC. SPECS.	RATED GMPS	SUPPLY CIRCUIT CONDUCTOR AMPACITY	MAXIMUM OVERCURRENT PROTESTIVE DEVICE
208-240/60/1	9.2	15	15
208-240/60/3	6.4	15	15
480/60/3	3.2	15	15
WIT	TURBO	DWASH TRIC HEAT	

TURBOWASH WITH ELECTRIC HEAT										
ELEC. SPECS.	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR AMPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE							
208-240/60/1	2C. 2	30	30							
208-240/60/3	17.4	20	20							
480/60/3	8.7	15	15							





### HOBART TURBOWASH™ TAKES ON THE TOUGHEST PAN, RACK AND UTENSIL CLEANING JOBS.

- · Eliminates laborious scraping and scrubbing
- · Reduces labor costs
- · Improves employee morale
- · No more pans, racks and utensils that just don't come clean

### **TURBO ACTION DOES IT**

Continuous high-power jets of turbulent water loosen even the worst baked-on food soil from pans and utensils while they soak in hot, soapy water. Your people will love it! And so will you. Because with TurboWash, the worst part of cleanup suddenly becomes the easiest.

### THE RIGHT SIZE FOR YOUR OPERATION

Models are provided in left-to-right or right-to-left configurations. Options include multiple tanks, tabling, splash ends, scrap sinks, drain boards and disposers. Plus, we'll custom-build if necessary. Just right for:

- 18" x 26" bakery pans
- · Pizza pans
- · Rotisserie racks
- · Meat lugs
- · Mixer bowls
- · Other utensils







### **SPECIFICATIONS**

Listed by Underwriters Laboratories Inc. Classified by Underwriters Laboratories in accordance with NSF Standard No. 2. Certified to CSA Standard.

### Construction:

Type 304 polished stainless steel. 14 gauge tanks, drain boards, splashes and rolled rims. 11" high by 21/2" deep back splash. Wash sink with dual pump inlet strainers and eight angled stainless steel wash nozzles: 11/2" diameter. Heavy-duty centrifugal pump, 4" diameter intake, 3" diameter outlet (300+ GPM). 2 H.P. wash pump motor, totally enclosed, fan cooled (TEFC), permanently sealed bearings. Sink front trim panel. Removable, welded H-frame leg sets with detachable and adjustable cross

### **CONTROLS**

Stainless steel control box. 208 volt through 240 volt, 60 cycle, single phase or three phase system. 480 volt, 60 cycle, three phase system. ON/OFF wash pump motor switch. Thermal overload and low water protection for wash pump. Automatic motor overload reset activated by restarting unit.

### **OPTIONS**

- ☐ Available left-to-right or right-to-left configuration.
- ☐ Lever type drains with 2" IPS male thread and lever support brackets.
- ☐ High quality mixing faucets with ¾" hot and cold water connections.
- High quality pre-rinse spray with 1/2" hot and cold connections.
- ☐ Sink overflows plumbed to drains.
- water protection. Heat selector switch with off, normal (115°F) and high (140°F) settings.
- ☐ Switch operated, adjustable (from 1 to 8 hours by Hobart Service) pump shut-down timer. Factory preset to 4 hours.
- ☐ 12" x 12" x 31/6" deep, high volume wash sink sump with removable basket strainer.
- ☐ Removable, flow-through wash sink separator placed at 36" (for wash sinks 42" or larger).
- ☐ Solenoid operated auto fill system with ¾" hot water connection.
- Perforated utensil basket with wire form support and
- ☐ Under shelf for clean end drain boards 30" or longer.
- ☐ 15" deep wall mounted over shelves with brackets.

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.

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F-39615 (Rev. 697)

LITHO IN U.S.A. (H-01) Printed On Recycled Pape



Qty.\_\_\_\_\_ Item No. \_\_\_\_\_

# HOBART

### FD3-50 FD3-75 FD3-125 FOODWASTE DISPOSERS

FOOD EQUIPMENT

### COMPACT SIZE -BIG VERSATILITY

Hobart Disposers are well recognized for quality and capacity. They're designed with your needs in mind - built with a large capacity for food wastes.

The following pages illustrate the variations of controls and accessories available to make these food waste disposers the most versatile equipment for small to medium sized clean-up systems.

### **SPECIFICATIONS**

Listed by Underwriters Laboratories Inc. and meets requirements of A.S.S.E. Standard No. 1009 (50 Hz. Electrical Specifications not U L Listed.)

MOTORS: Continuous duty rating, equipped with manual reset thermal overload inherent protector. Permanently lubricated ball bearings for upper and lower shelf support. Upper bearing is sealed on both sides.

HOUSINGS: Heavy aluminum grind and discharge housings. Four bolts fasten the motor unit to the grind chamber, permit easy removal.

MOUNTING: All Hobart Disposers (except when using accessory group E), fasten to 7" I.D. (throat opening) cones. A vinyl isolating ring eliminates metal-to-metal contact at the cone mounting, reduces vibration and noise transmission.

STATIONARY SHREDDER RING: 13/4" high, 4 machine ground primary action breaker bars, 42 secondary action grinding teeth.

FLYWHEEL: Breaker blade, mounted at center, speeds grinding, prevents objects from "riding" at center. Two hardened stainless steel cutter blocks (fastened to flywheel with nylock screws) are replaceable, can be indexed for new cutting edges. Ni-Resist flywheel is 6%6" diameter, slots undercut the shredder ring to assure that particles are cut to proper size before passing to the drain line.

MOTOR SHAFT SEAL: Face-type seal consists of sintered bronze mating ring and spring loaded carbon ring insert in chemical resistant neoprene bellows. Mating surfaces are protected from grit or fibers by being recessed into flywheel. Should any moisture pass this seal, a flinger and drain tube are provided to insure immediate removal. In addition, a liptype oil seal (located beneath the bearings) is an "added protection" water seal.

DRAIN CONNECTOR: A chrome plated brass tailpiece is provided for connection to a 1½" standard drain trap.

**DUAL DIRECTIONAL GRINDING:**All Disposers operate in either direction of flywheel rotation. Direction of rotation can be controlled by the

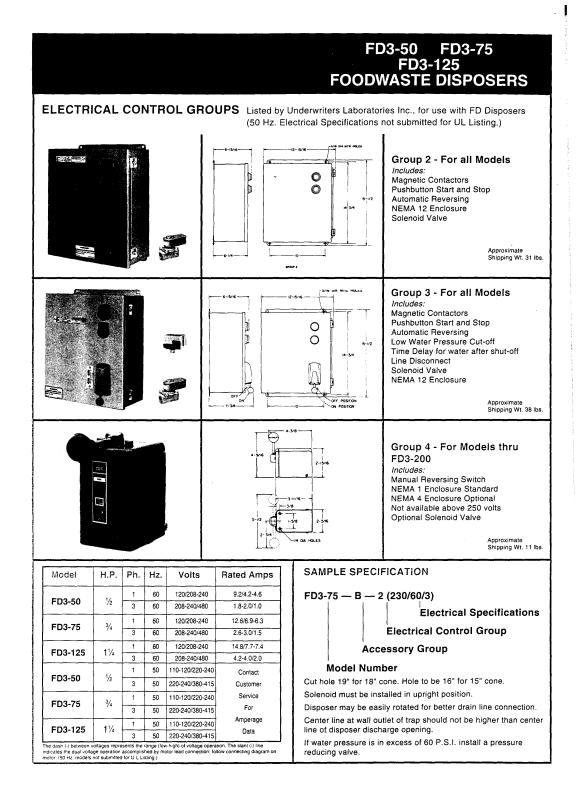
of rotation can be controlled by the operator (to increase life and efficiency of grinding elements — back flywheel free of a "jam") when installed with Control Groups 2, 3 or 4.

**WEIGHT:** Shipping – Approx. 60 lbs. (does not include accessory group or controls).

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.



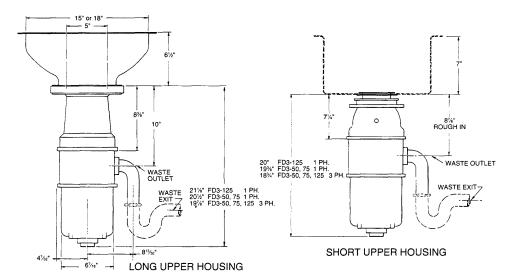
#### FD3-50 FD3-75 FD3-125 FOODWASTE DISPOSERS GROUP E (For use with short upper **CONE FEEDING ACCESSORIES ACCESSORY GROUPS** housing only.) Part No. NOTE: For use with GROUP A (For use with long upper short Upper Housing Foodwaste Disposer housing only.) Vinyl Scrapping Ring.. .... 202113 only. Vinyl Scrapping Cover Stopper and Ring Sink Adapter Assembly for 3½" to 4" Sink Opening Stainless Steel Silver-Saver Sleeve Stainless Steel with side feed hole ......203870 Silver-Saver Sleeve with Side Feed SILVER-SAVER SPLASH **GUARD RING** Fixed Direction Vacuum Breaker Water Inlet for Sink Water Swirl Vacuum Breaker **ACCESSORY COMPONENTS** Vinyl Silver-Saver and Splash Guard Ring (for 7" opening cones, sinks GROUP B (For use with long upper ..... 202120 and adapter) ...... CONES-SINK - Stainless Steel housing only.) **VACUUM BREAKERS -**Chrome Plated Vinyl Silver-Saver Splash Guard Ring ..... 277112 Cone 15" I.D. w/hole for water swirl .....204007 . PRE-RINSE SPRAYS Cone 18" I.D. w/hole for water swirl Water Swirl Vacuum Breaker Cone 18" I.D. w/out swirl hole .... 204003 GROUP C (For use with long upper PR-3 Heavy-duty Flexible Pre-Rinse Spray (38" high housing only.) Vinyl Silver-Saver Splash Guard Ring bracket) ML-32333 Sink 16" x 20" x 7" (7" opening) w/hole for water inlet .......... 204015-2 WATER INLETS Cone Water Swirl Inlet 1/2" N.P.T. Vacuum Breaker .....204380 Fixed Direction Water Inlet (for sinks or ..... 204346 troughs) 1/2" N.P.T. ...... FLOW CONTROL PR-4 Utility Spray (with wall bracket) ML-32334 5 Gallons per minute for Models FD3-50 through FD3-125 3/4" N.P.T. .....201721 CONE COVER -STAINLESS STEEL Pre-Rinse Spray Adapters are available to install Hobart Disposers on existing competitive cones. See Form F-7543. with Wall Bracket 15" Cone Cover w/feed hole ..... 204024 18" Cone Cover w/feed hole ...... 204023



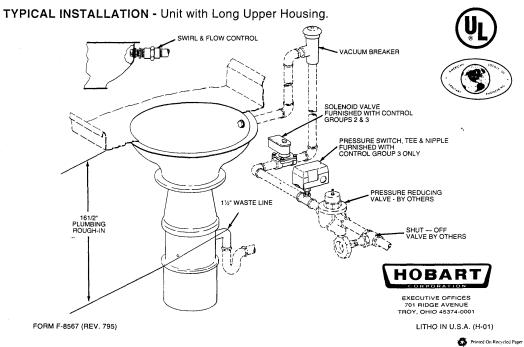
## FD3-50 FD3-75 FD3-125 FOODWASTE DISPOSERS



### **DETAILS AND DIMENSIONS**



NOTE: Specify 15" or 18" Cone When Desired.





# **BEVERAGE-AIR**<sub>8</sub>

Commercial Refrigeration Equipment General Specifications

# 29" DEPTH UNDERCOUNTER REFRIGERATOR FOOD PREPARATION SERIES

Quantity

MODELS: UCR27 UCRD27 UCR48 UCR60 UCR72

### **UCR-SERIES UNDERCOUNTER UNITS**

Versatile, compact (29" deep) models for under the counter refrigerated storage of food products. Height is 34-1/2".

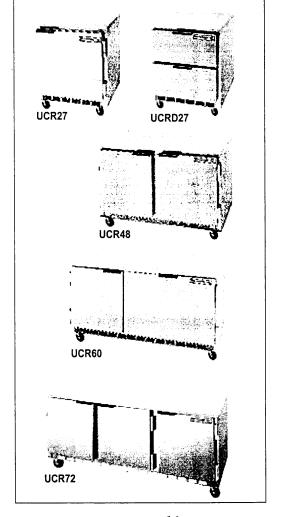
### Cabinet construction:

Heavy duty construction includes #3 finish exterior stainless steel on front, sides, door(s) and grille. Cabinet back and bottom are galvanized steel. Interior liner is made of corrosion resistant anodized aluminum. Interior thermometer is standard

Cabinets are insulated with 2" thick foamed-in-place polyurethane insulation. Sub-top insulated with 1 1/2" foamed in place polyurethane insulation. Doors are mounted to cabinet on self-closing cam lift hinges with 120 degree stay open feature. Pull-out drawers (2) on Model UCRD27 will accommodate 12x20 pans (1 per drawer). Pans by others. Doors are equipped with a snap-in-place vinyl magnetic gasket for a positive seal. Convenient, double pull style door handle is made of black anodized aluminum. 6" high casters are standard, 2 include brakes. An 8' cord set is provided with 115 volt models. Cabinet interior standard with 2 steel wire epoxy coated shelves per section. Interior light with manual switch is provided with glass door models.

### Refrigeration:

Refrigeration system utilizes R134a refrigerant governed by a capillary tube system. Automatic (non-electric) condensate evaporator is provided. Unique front venting through grilles located below doors permits units to be installed against back walls and curbs. Interior forced air system with high humidity evaporator coils, provides the ideal environment for food preservation.

















### **ATTACHMENT 7**

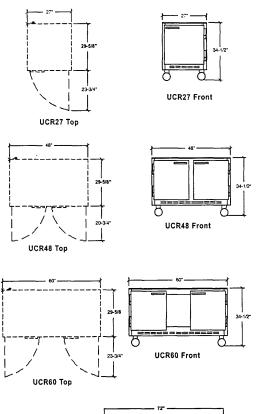
Model Specified	Store#	
Location	Quantity	

# **BEVERAGE-AIR**.

# **Standard Undercounter** Refrigerator Cabinet

Models: UCR27 / UCR48 / UCR60 / UCR72

MODEL	UCR27	UCR48	UCR60	UCR72
DIMENSIONAL DATA				
Net Capacity (cubic ft.) Net Capacity (liters)	6.2 175	11.8 334	14.5 410	17.7 501
Length overall (inches) Length overall (mm)	27" 686	48" 1219	60" 1524	72 <b>"</b> 1829
Depth overall (inches) - Less handle Depth overall (mm) - Less handle	29 <sup>5</sup> /s" 752	29⁵/₃" 752	29⁵/₅" 752	29 <sup>5</sup> /8" 752
Height overall - on 6" casters (inches) Height overall - on 6" casters (mm)	34¹/₂" 876	34 <sup>1</sup> / <sub>2</sub> " 876	34¹/₂" 876	34¹/₂" 876
Depth with door open 90° (inches)	53³/e"	50³/s"	53³/ <sub>8</sub> "	503/8"
Clear Door Opening (inches)	22'/2 x 21'/2	191/2 x 211/2	221/2 x 211/2	19½ x 21½
Number of shelves	2	4	4	6
Number of doors	1	2	2	3
ELECTRICAL DATA				
Full load amperes 115/60/1	4.0	4.5	6.5	6.5
Full load amperes 220/50/1	_	-	-	-
REFRIGERATION DATA				
Refrigerant	R134a	R134a	R134a	R134a
Horsepower	1/6	1/5	1/4	1/4
WEIGHT DATA				
Gross Weight (Crated lbs)	157	230	235	320
Gross Weight (Crated kg)	71	104	106	145



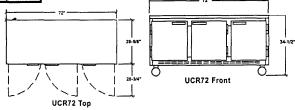












Available From:





# EG SERIES GAS RESTAURANT RANGES



Design Certified by the American Gas Association Listed by the National Sanitation Foundation





### SPECIFICATIONS:

Gas restaurant ranges, manufactured by Vulcan-Hart for Superior Products. Stainless steel front, back riser, high shelf and 6" adjustable legs. Sides finished in heat resistant paint. 17,500 BTU fin. cast top burners. Individual pilot for each burner. 12" x 24" aeration plates and removable spider grates finished with black porceian enamel. Full width pull-out crumb tray under burners. 35,000 BTU/hr. standard oven(s) measure 26½ w x 22"d x 14½. Thermostat adjusts from 150° to 500°F. One oven rack and two rack positions per oven. 3½" rear gas connection and gas pressure regulator.

### Exterior dimensions:

Model EG36 - Item #7S350 / Model EG36F - Item #7S352: 30 w x 31% d x 59% h on 6' adj. legs. 36% wkg. ht.

Madel EG60 - Item #7\$356 / Model EG60F - Item #7\$358: 60 'w x 31%'d x 59%'h on 6' adj. legs. 36%' wkg. ht.

### Model EG250 - Item #7S367:

6.0° w x 31% d x 591/2"h on 6" adj. legs. 361/2" wkg. ht.

A.G.A. design certified and N.S.F. listed.

### STANDARD FEATURES - ITEM # 7S350 - MODEL EG36

- Six 17.500 BTU.hr. cast top burners.
- One standard oven.

### STANDARD FEATURES - ITEM #7S352 - MODEL EG36F

- Two 17,500 BTU/hr. cast top burners. 24" wide griddle.
- '/2" thick polished steel griddle plate, 30,000 BTU/hr.
- One standard oven.

### STANDARD FEATURES - ITEM #7S356 - MODEL EG60

- Ten 17,500 BTU/hr. cast top burners.
- Two standard ovens.

### STANDARD FEATURES - ITEM #7S358 - MODEL EG60F

- Six 17,500 BTU/hr. cast top burners. 24" wide griddle.
- 1/2" thick polished steel griddle plate, 30,000 BTU/hr.
- Two standard ovens.

### STANDARD FEATURES - ITEM #7S367 - MODEL EG260

- Six 17,500 BTU/hr. cast top burners.
- 24\* wide raised griddle/broiler combination, 1/2\* thick polished steel griddle plate, 30,000 BTU/hr.
- Two standard ovens.

### STANDARD FEATURES - ALL MODELS

- Stainless steel front, back riser, high shelf and 6° adjustable legs. Sides finished in heat resistant paint.
- Individual pilot for each open top burner.
- 12" x 24" aeration plates and removable spider grates finished with black porcelain enamel.
- Full width pull-out crumb tray under burners.
- 35,000 BTU/hr. standard oven measures 26'/4"w x 22"d x 14'/2"h. Thermostat adjusts from 150° to 500°F. One oven rack and two rack positions.
- 3/4" rear gas connection and gas pressure regulator.
- One year limited parts and labor warranty.

### OPTIONS

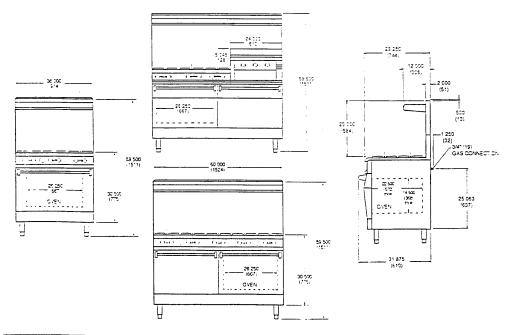
Set of 4 casters, 2 locking (#7S892).

3/4" x 4' quick disconnect hose kit (#7A823).



# EG SERIES GAS RESTAURANT RANGES

Model No.	Ext. Dim (w" x d" x h")	No. of Open Burners	Griddle Width	Total Top BTU/hr.	No. of Ovens	Oven BTU/hr.	Ship. Wt. (lbs/kg)
EG: (#78350) - 원하다	36 x 29 <sup>1</sup> / <sub>4</sub> x 59 <sup>-</sup> / <sub>2</sub>	6	_	105.000	1	35,000	420
E935F (#78352) 윤	36 x 29'/ <sub>4</sub> x 59'/ <sub>2</sub>	2	24*	65.000	1	35,000	475
EG60 (+78356)	60 x 29 <sup>1</sup> / <sub>4</sub> x 59 <sup>1</sup> / <sub>2</sub>	10	·. —	175.000	2	70,000	660
ESECF (#78358) 공원을 공원을	60 x 29'/4 x 59'/2	6	24"	135.000	2	70,000	735
EG250 (#75367) 원광왕 원왕	60 x 29 <sup>1</sup> / <sub>4</sub> x 59 <sup>1</sup> / <sub>2</sub>	6	24" raised griddle/broiler	135,000	2	70,000	775



Superior Products Mfg. Co., P.O. Box 64177, St. Paul, MN 55164 Phone: 800-328-9800 Fax: 612-636-3671

7-8-541 C.S.I. Section 11420

# 

## 900 SERIES

**HEAVY-DUTY GAS GRIDDLES** 



□ 924A 24" w x 233/4" d griddle plate 36" w x 233/4" d griddle plate × 936A 48" w x 23¾" d griddle plate 948A 960A 60" w x 233/4" d griddle plate 972A 72" w x 23¾" d griddle plate

#### STANDARD FEATURES

- Stainless steel front and sides.
- 1" thick polished steel griddle plate welded to stainless steel side and back splashers.
- One 30,000 BTU/hr. aluminized steel burner and 120 volt snap acting thermostat for each 12" of griddle width. Temperature adjusts from 150°F to 450°F. Knobs recessed for protection.
- 3¾" wide polished stainless steel front grease trough.
- Large capacity 134 gallon stainless steel grease drawer with anti-splash baffles. (Model 972A has two grease drawers.)
- 4" stainless steel legs with adjustable feet.
- 3/4" rear gas connection and internal gas pressure regulator. 120 volt control circuit, four foot cord with 3 prong plug.
- One year limited parts and labor warranty.







### SPECIFICATIONS:

Heavy-duty gas griddle, Vulcan-Hart model Stainless steel front and sides. \_\_\_ \_\_" w x 23¾" d x 1" thick polished steel griddle plate welded to stainless steel side and back splashers. One 30,000 BTU/hr. aluminized steel burner and 120 volt snap acting thermostat for each 12" of griddle width. Temperature adjusts from 150°F to 450°F. Knobs recessed for protection. 3%" wide polished stainless steel front grease trough. Large capacity 134 gallon stainless steel grease drawer with anti-splash baffles. 4" stainless steel legs with adjustable feet. 3/4" rear gas connection and internal gas pressure regulator. 120 volt control circuit, 4 foot cord with 3 prong plug.

\_\_" w x 30½" d x 19" h on 4" adjustable Exterior dimensions: \_\_ legs. 151/4" working height.

SPECIFY TYPE OF GAS WHEN ORDERING. SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

### OPTIONS

- $\sqsubseteq$  Chrome-plated cooking surface.
- Electric pilot ignition (not available on 924A).
- Solid state temperature controls.
- ☐ Rear grease trough in lieu of front trough.
- $\square$  Side mounted stainless steel grease drawers, 2½ gallon capacity per drawer. Add 6" to width and 2" to depth of unit.
- Full width towel bar (not available with cutting board).
- Full width cutting board, 7" deep (not available with towel bar).
- feet, 34" working height.
- ☐ Set of 4" casters, two locking swivel.
- $\hfill \square$  Second year extended limited parts and labor warranty.

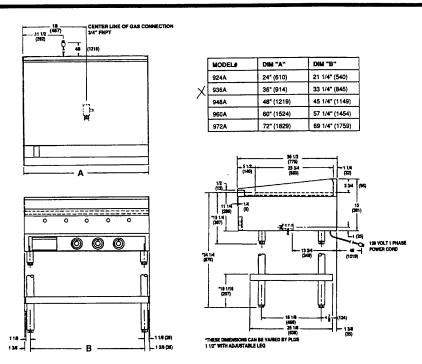
SPECIFY TYPE OF GAS AND FINISH WHEN ORDERING.

F-31573 (12-00)



# 900 SERIES

**HEAVY-DUTY GAS GRIDDLES** 



(Millimeter measurements in parenthesis)

# 900A SERIES SPECIFICATIONS With FRONT GREASE TROUGH GRIDDLES

*					
Overall Width	24"	36"	48"	60"	72"
Overall Depth	301/2"	301/2"	301/2"	301/2"	301/2"
Overall Height (Counter)	19" *	19" "	19* *	19" *	19" *
Working Height (Counter)	15" *	15" *	15" *	15" *	15" *
Working Height (With Stand)	34" *	34" *	34" *	34" *	34" *
Griddle Plate Width	231/4"	351/4"	47%"	591/4"	71%"
Griddle Plate Depth	24"	24*	24"	24"	24"
Griddle Plate Thickness	1"	1"	1*	1"	1"
Number of Burners	2	3	4	5	6
BTU/hr. Input Per Burner	30.000	30.000	30.000	30,000	30,000
Total BTU/hr. Input	60,000	90.000	120,000	150,000	180,000
Number of Thermostats	2	3	4	5	6
Number of Drawers	1	1	1	1	2
Grease Capacity of Drawer(s)	1% Gal.	1¾ Gal.	1¾ Gal.	1¾ Gal.	31/2 Gal.
Effective Cooking Area	**496 sq. in.	**784 sq. in.	**1072 sq. in.	**1360 sq. in.	**1684 sq. in.
Thermostat Dial Marking	OFF to 450°F	OFF to 450°F	OFF to 450°F	OFF to 450°F	Off to 450°F

<sup>\*</sup>These are nominal dimensions, they can be varied by plus 2%" with adjustable legs.

NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

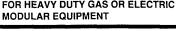


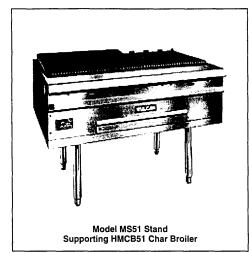
<sup>\*\*</sup>Based on a griddle surface temperature within controllable thermostat dial setting and with front grease trough.

Item # 7-V-550 C.S.I. Section 11420

# YULC4N

# **STANDS** FOR HEAVY DUTY GAS OR ELECTRIC





### STANDARD FEATURES

- Supports Vulcan gas and electric heavy duty modular cooking equipment.
- Stainless steel front, sides, legs and adjustable feet.
- Open frame construction with 14 gauge steel frame channels and 2" diameter round tubular legs.
- Standard lengths from 34" to 92".
- Three leg heights available.

### **OPTIONS**

- Stainless steel undershelf.
- Set of 4 casters (2 locking).

### SPECIFICATIONS:

Heavy duty modular equipment stand, Vulcan-Hart Model No. \_, to support \_ \_\_. Stainless steel front, sides, legs and adjustable feet. Open frame construction with 14 gauge stainless steel frame channels and 2" diameter round tubular stainless steel legs. Furnished with (tall legs for a 35° to 37" working height) (medium legs for a 331/2" to 351/2" working height) (short legs for a 301/2" to 321/2" working height). (NOTE: Tall legs are standard.) Shipped knocked down.

NSF listed.

F-31534 (7-00)



### **STANDS**

FOR HEAVY DUTY GAS OR ELECTRIC MODULAR EQUIPMENT

MODEL	A	В	Shp. Wt.
MS34G	34" (864)		75 lbs./34 kg
MS36	36" (914)		80 lbs./36 kg
MS40	40" (1016)		83 lbs./38 kg
MS44	44" (1118)		86 lbs./39 kg
MS48	48" (1219)		89 lbs./40 kg
MS51G	51" (1295)		90 lbs./41 kg
MS52	52" (1321)		92 lbs./42 kg
MS56	56" (1422)	191/2" (495)	95 lbs./43 kg
MS60	60" (1524)	21½" (546)	98 lbs./45 kg
MS68(G)	68" (1727)	251/2" (648)	105 lbs./48 kg
MS72	72" (1829)	27½" (699)	110 lbs./50 kg
MS76	76" (1930)	291/2" (749)	115 lbs./52 kg
MS85G	85" (2159)	34" (864)	120 lbs./54 kg
MS92	92" (2337)	37½" (953)	140 lbs./64 kg

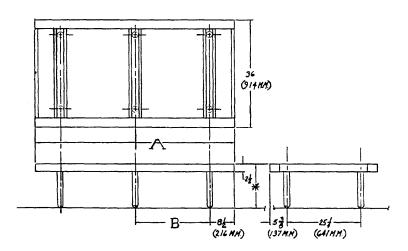
(Millimeters in parenthesis.)

### LEGS AVAILABLE IN THREE HEIGHTS:

 SHORT:
 16½" adj. to 18½" for 30½" to 32½" working. ht.

 MEDIUM:
 19½" adj. to 21½" for 33½" to 35½" working ht.

 TALL:
 21" adj. to 23" for 35" to 37" working ht.



NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

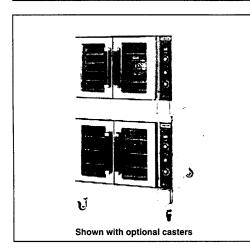
F-31534 (7-00)

C.S.I. Section 11420

# **VULCAN**

### **MODEL SG44D**

**DOUBLE DECK GAS CONVECTION OVEN** 









### SPECIFICATIONS:

Double section gas convection oven, Vulcan-Hart Model No. SG44D. Stainless steel front, sides, top, rear enclosure panel and legs. Independently operated stainless steel doors with windows open a full 180°. Non-sag insulation applied to the top, rear, sides, bottom and doors. Porcelain enamel on steel oven interiors measure 29"w x 221/6"d x 20"h. Two interior oven lights per section. Five nickel plated oven racks per section measure 281/4" x 211/4". Eleven position nickel plated rack guides with positive rack stops. Two 30,000 BTU/hr. burners per section, 120,000 BTU/hr. total input. Electronic spark igniters. Furnished with two speed 1/2 H.P. oven blower motors. Side mounted solid state temperature controls adjust from 150° to 500°F. Power Level controls allows the operator to adjust the heat input from 15,000 BTU/hr. to a maximum input of 60,000 BTU/hr. in each oven section. 60 minute timers with audible alarm. Oven cool switch for rapid cool down. 115 volt, 60 Hz, 1 ph power supply required. 6' cord and plug. 9 amps per section, 18 amps total draw.

Exterior dimensions: 40"w x 411/2"d x 72"h on 8" legs. Depth measurement includes door handles.

CSA design certified. NSF listed.

SPECIFY TYPE OF GAS AND FINISH WHEN ORDERING.

SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

### STANDARD FEATURES

- Stainless steel front, sides, top, rear enclosure panel and legs.
- Stainless steel doors with windows.
- Two 30,000 BTU/hr. burners per section, 120,000 BTU/hr. total input.
- Electronic spark igniters.
- ½ H.P. two speed oven blower motors. 115/60/1 with 6' cord and plug. 9 amps per section, 18 amps total draw.
- Solid state temperature controls adjust from 150° to 500°F.
- Energy saving "Power Level" controls allow the operator to adjust the heat input to the size of the load.
- 60 minute timers with audible alarm.
- Oven cool switch for rapid cool down.
- Porcelain enamel on steel oven interiors.
- Five nickel plated oven racks with eleven rack positions per section
- ¾" rear gas connection with gas pressure regulator and manual shut-off valve.
- One year limited parts and labor warranty.

### **OPTIONS**

- ☐ Five hour timer in place of 60 minute timer.
- 208V or 240V, 60 Hz, 1 phase two speed blower motor, 1/2 H.P.
- □ Casters
- Simultaneous doors.
- Second year extended limited parts and labor warranty contract.

### **ACCESSORIES**

- Extra oven rack(s).
- Stainless steel drip pans.
- Flexible gas hose with quick disconnect and restraining device. Consult price book for available sizes.
- Down draft flue diverter for direct vent connection.

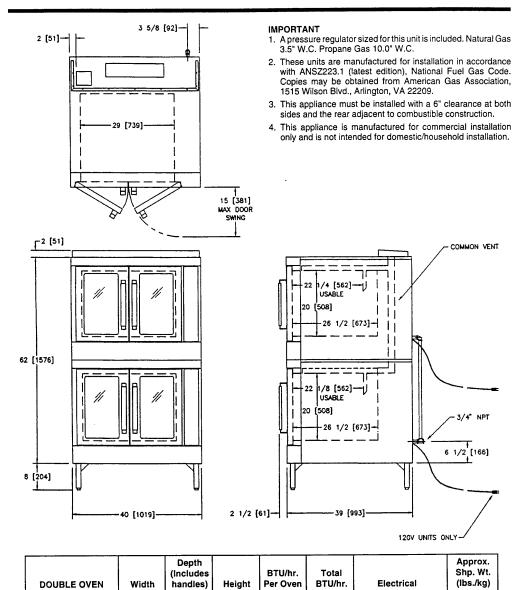
F-32263 (6/00)



SG44D

### **MODEL SG44D**

DOUBLE DECK GAS CONVECTION OVEN



NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

F-32263 (6/00)

60,000

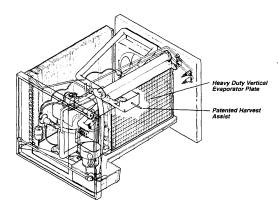
120,000

115/60/1

1180/532

# <u>lce-O-Matic</u>

**U**nique, patented harvest assist system delivers ice to the bin faster (with less meltage) than any other system.



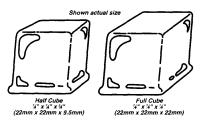
The vertical evaporator has a highly efficient freezing surface area coupled with a balanced freezing system that allows for extremely quick freezing of the water, that gives you ice in the bin faster than other models.

The 400 Series incorporates the use of a HFC refrigerant (R-404a) that provides efficient ice production without harmful CFCs.

Easy to service – all panels are easily removed with most electrical circuitry and components accessible through the front of the unit.

**B**y stacking the units you can double the production capacity without relinquishing additional floor space (except Wallhugger series).

Half or full sized cubes – choose the size best suited for your application. (Jumbo sized cubes are available on select models.)



This series is available with an air or water cooled condenser – choose the system best suited for your application.

# 400 Series Cube Ice Maker



**400 Series Cube Ice Maker** Shown on Model B-40 Bin









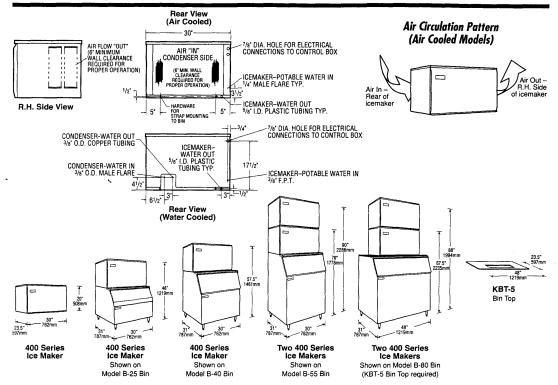








## Cube Ice Maker, 400 Series



### Ice Production Charts — Pounds (Kilograms) Per 24 Hours

Condensing	Condensing Air Temp. Water Temp. °F (°C)		Condensing	Air Temp.	Water Temp. °F (°C)				
Unit	°F (°C)	80° (27°)	70° (21°)	50° (10°)	Unit	°F (°C)	80° (27°)	70° (21°)	50° (10°)
	90° (32°)	338 (153)	345 (157)	395 (179)		90° (32°)	332 (151)	369 (168)	420 (191)
Air	80° (27°)	383 (174)	395 (179)	439 (199)	Air	80° (27°)	373 (169)	415 (188)	466 (212)
	70° (21°)	430 (195)	439 (199)	488 (222)	1	70° (21°)	415 (188)	461 (209)	518 (235)
	90° (32°)	417 (189)	449 (204)	508 (231)		90° (32°)	437 (198)	470 (213)	522 (237)
Water	80° (27°)	424 (192)	456 (207)	518 (235)	Water	80° (27°)	455 (207)	490 (222)	544 (247)
	70° (21°)	433 (197)	466 (212)	529 (240)		70° (21°)	473 (215)	509 (231)	565 (257)
Model Nu	mber		EC-400		Model Nu	mber		EC-405	

### Ordering and Specification Information:

Madel Number	Description	Cond. Unit	Cube Size	ice Production per 24 hrs. at 70° Air/50° Water Lbs. (Kgs.)	ice Production per 24 hrs. at 90° Air/70° Water Lbs. (Kgs.)		Gals. (Lits.) lbs. of Ice 70° Water Cond. Use	Kilowatts Used per 100 lbs. of Ice 90° Air 70° Water	Comp. HP	Characteristics Voltage	No. of Wires	Min. Circuit Amp.	Max. Fuse Size	Refrig. Type	Shipping Weight Lhs. (Kgs.)
EC-400F-A-P-B EC-400H-A-P-B EC-400F-W-P-B EC-400H-W-P-B	Electro-Mechanical 60 cycle voltage	Air Air Water Water	Full Haif Full Haif	488 (222) 488 (222) 529 (240) 529 (240)	345 (157) 345 (157) 449 (204) 449 (204)	24 (91) 24 (91) 27 (102) 27 (102)	n-a n-a 225 (853) 225 (853)	7.2 7.2 4.7 4.7	1/2 1/2 1/2 1/2	115/60/1 115/60/1 115/60/1 115/60/1	3 3 3 3	15.2 15.2 13.4 13.4	20 A 15 A	R-404a R-404a R-404a R-404a	170 (77) 170 (77) 170 (77) 170 (77)
EC-405F-A-P-B EC-405H-A-P-B EC-405F-W-P-B EC-405H-W-P-B	Electro-Mechanical 50 cycle voltage	Air Air Water Water	Full Haif Full Haif	518 (235) 518 (235) 565 (257) 565 (257)	369 (168) 369 (168) 470 (213) 470 (213)	22 (83) 22 (83) 26 (98) 26 (98)	n-a n-a 140 (530) 140 (530)	8.2 8.2 4.4 4.4	3/4 3/4 3/4 3/4	240/50/1 240/50/1 240/50/1 240/50/1	3 3 3	12.5 12.5 10.1 10.1	15 A 15 A	R-404a R-404a R-404a R-404a	170 (77) 170 (77) 170 (77) 170 (77)
KCDS-30 KCSSP-246-B KCSSP-246-BE 1051026-01	Jumbo cube size: '/s" available on air cooler Stacking Kit for stacki Stainless Steel Panel Ice Deflector – use wit See Bin specification	d units only ng two Ser Kit for field Kit for field hen mounti	, ice ma ies 400 I conver I conver ing on a	ker production capac ice makers sion of Model EC-40 sion of Model EC-40 bin or dispenser othe	city is 15-20% less 5 er than current lce-0			nber							30 (14) 26 (12) 26 (12) 15 (7)

Ice-O-Matic/Mile High

11100 E. 45th Ave., Denver, CO 80239 Phone 303/371-3737, Rotary Phone 303/371-9625, FAX 303/371-6296

97-0290 1OM 4/96



Item#	

Job \_\_\_\_\_

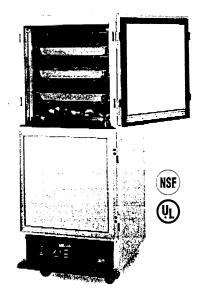
# METRO

Insulated Holding Cabinets C199 FlavorHold™ Series

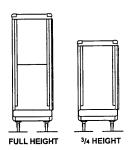
# INSULATED HOLDING CABINETS C199 FlavorHold™ Series

Designed for holding and transporting prepared food.

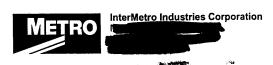
- Maintains Uniform Temperature: Four-way blowerforced air circulation – from front, back and sides – assures uniform temperature throughout the cabinet
- Dutch Doors Prevent Excess Heat Loss: Insulated Dutch doors keep heat loss to a minimum while food is being loaded into cabinet or served. Only one door need be opened at a time. Continuous gaskets on both doors. Doors are field reversible.
- Easy to Clean: Slide racks and module can be removed easily, without tools, for thorough cleaning. Model 4 racks come in two pairs to fit in pot sinks. Door can also be lifted off for easier access to interior.
- Transports Food Securely: Each door has magnetic latches and a full-length handle for easy, one-handed opening by right- or left-handed operators. Each is equipped with a transport latch.
- Easily Accessible Controls: The control panel is recessed to protect controls and angled for easy viewing. All controls are on the outside, so they can be adjusted without opening the door and disturbing the atmosphere inside the cabinet.
- Digital Thermometer: Mounted in the unit with the sensing bulb stationary inside the cabinet for more consistent readings during frequent cabinet opening.
- Conserve Energy: HM2000 holding module circulates heated air inside C199 series holding cabinets to keep prepared food warm until it is served. Fiberglass insulation (1\* [25mm] in top, back, sides and doors) retains the heat
- Accommodates Various Tray Sizes: Three slide options 1½" (38mm), 3" (76mm) and variable permit cabinets to accommodate various tray sizes. (See specifications on back.) Model 4 and V racks with 3" (76mm) spacing also adjust laterally to take both 18" (457mm) and 20" (508mm) width trays and each
- Available In Full and <sup>3</sup>/<sub>4</sub> Height Models to accommodate a variety of applications.



C199 FlavorHold™ Series







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## INSULATED HOLDING CABINETS C199 FlavorHold™ Series



# Specifications

- Material: .063\* (1.8mm) high-strength, natural-finish aluminum alloy. .188\* (4.8mm) chassis.
- Top & Bottom: Brake-formed from flat sheet into box section.
- Sides & Back: Smooth wrap-around body, brake-formed at ends forming front corner post and vertical reinforcing rib at center back.
- **Doors:** Extruded aluminum frame with double-walled, insulated interior. Double-hinged; each door swings 270 degrees against side; extruded aluminum handle; continuous gasket; dual magnetic latches with transport latch. Doors are field reversible
- Tray Slide Racks:

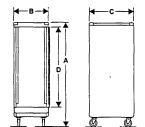
Model 4: Nickel-chrome plated wire rack; 3" (76mm) slide spacing.

**Model 8:** Custom-designed aluminum extrusions with 1°  $\times$  1 $^{1}/_{2}$   $\times$   $^{1}/_{6}$  (25  $\times$  38  $\times$  3mm) angle uprights and 1 $^{1}/_{2}$   $^{1}\times$   $^{1}/_{2}$   $^{1}\times$  .063° (38  $\times$  12  $\times$  1.8mm) channel slides.

Model V: Custom-designed aluminum extrusions with 1° x 11/2° x 1/8° (25 x 38 x 3mm) angle uprights and 3\* x 41/4\* x .100\* (76 x 121 x 2.5mm) extruded vari-slides adjustable on 11/2\* (38mm) centers. 3\* (76mm) minimum spacing. All slide racks remove for thorough cleaning.

• Casters: Two B5DN on back - 5° (127mm) double ball bearing swivel, ball bearing axle, nickel-plated, donut neoprene-tired, pre-lubricated, bolted through chassis. Two B5DNB on front same as above, with wheel brake.

Electrical: HM2000 Holding Module -2138 watt, 120 VAC, 18 amp, 60 cycle, controlled by an adjustable thermostat with indicator light. Cabinet operating range is 80°-200° Fahrenheit under normal room temperature conditions. Water pan; master switch, "Power On" light; 6-foot (1829mm), 3-wire lead cord; blaves forest size indicate the surface of the blower-forced air circulation through perforated air duct at back. Entire unit may be removed without tools. UL and NSF listed.



## Dimensions

Full Height						
_	(A) Height	(B) Width	(C) Depth	(D) Inside Height	Approx. Pkd. Wt.	
Cat. No.	(in.) (mm)	(in.) (mm)	(in.) (mm)	(in.) (mm)	(lbs.) (Kg)	
C199-H8N C199-HL8N*	69³/4 1772	28 711	331/2 851	523/4 1340	255 116	
C199-H4N C199-HL4N*	69³/ <sub>4</sub> 1772	28 711	331/2 851	52³/₄ 1340	268 122	
C199-HVN	69³/ <sub>4</sub> 1772	28 711	331/2 851	523/4 1340	284 130	

3/4 Height	(A) Height		(B) Width		(C) Depth		(D) Inside Height		Approx. Pkd. Wt.	
Cat. No.	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(lbs.)	(Kg)
C199T-H8N C199T-HL8N*	573/4	1467	28	711	331/2	851	403/4	1035	192	87
C199T-H4N C199T-HL4N*	573/4	1467	28	711	331/2	851	403/4	1035	192	87
C199T-HVN C199T-HLVN*	573/4	1467	28	711	33¹/₂	851	403/4	1035	192	87

<sup>\*1440-</sup>watt lower voltage model. Plugs into any outlet. For 15 amp service. NOTE: Brakes are standard on two casters, for the units listed above.

# Accessories

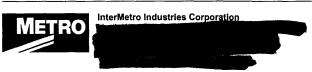
Model	Description
PH199	Handle
B**	Corner Bumper
VS4N*	Extra Vari-slides (for C199-HVN only; will take 5 extra pr. max.)

Standard on units listed above. May be added to previously purchased units.
 Add bumber suffix to cabinet part number (i.e. C199-H8N-B).

Pan Capacity

Cat. No	Stide S (in.)	ipacing (mm)		No. 3/4 Ht.	Pan Size (in.)		
*8N* Models	11/2		34	27	18 x 26		
'4N' Models	3	76	17 17 14 34	13 13 13 26	18 x 26 14 x 18 20 x 24 12 x 20		
"VN" Models	Min.	istable 76	16" 32" 16" 22" 11" 22" 11" 22" 11" 22" 22"	9* 18* 9* 18* 9* 18* 9* 18* 9* 18*	15 x 20 10 <sup>7</sup> / <sub>8</sub> x 19 <sup>3</sup> / <sub>4</sub> 18 x 26 11 <sup>1</sup> / <sub>8</sub> x 20 20 x 20 12 x 18 20 x 22 12 x 20 20 x 24 13 x 18 14 x 18		

Manufactured by:



L02-070 Rev. 5/00 in U.S.A.

Information and specifications are subject to change without notice. Please confirm at time of order.

### SECTION 13000

### DIVISION 13 SPECIAL CONSTRUCTION: - OUTLINE SPECIFICATIONS

### PART 1 GENERAL

### 1.1 GENERAL REQUIREMENTS

### 1.1.1 Guide Specifications

The contractor shall edit and provide the following UFGS guide specifications for Division 13: Special Construction:

Section 13080, SEISMIC PROTECTION FOR MISCELLANEOUS EQUIPMENT

Section 13110, CATHODIC PROTECTION SYSTEM

Section 13851, FIRE DETECTION AND ALARM SYSTEM, ADDRESSABLE

Section 13930A, WET PIPE SPRINKLER SYSTEM, FIRE PROTECTION

Section 13965A, WET CHEMICAL FIRE EXTINGUISHING SYSTEM

Section 13975N, STANDPIPE SYSTEMS

### 1.2 SECTION 13110, CATHODIC PROTECTION SYSTEM

The edited specification shall include the following requirements for material criteria:

### 1.2.1 General Requirements

Cathodic protect is required for all underground metallic pipes and conduits. Protection shall use a sacrificial annode type system.

### 1.3 SECTION 13851, FIRE DETECTION AND ALARM SYSTEM, ADDRESABLE

### 1.3.1 General Requirements

- A. The fire alarm system shall be an addressible system. The system shall be SLC Style 5, with style Z indicating devices.
- B. The battery backup for the alarm system shall be sufficiently sized for  $48\ \text{hours}$  operation.
- C. The control panel is located in the DOIM communications room with a switch that will shutdown the entire HVAC System.
- D. A Monaco D-700 Transciever will be installed in the communications room.

# 1.4 SECTION 13930A, WET PIPE SPRINKLER SYSTEM, FIRE PROTECTION

This guide specification is a preformance specification, which covers the requirements for wet pipe fire protection sprinkler systems. This section is primarily intended for performance designed systems in accordance with Military Handbook 1008C, i.e., systems where the size, layout, and support of branch lines and cross mains, and the layout of sprinkler heads shall be designed by the Contractor. The design shall be preformed and reviewed through the design process of the contract. The specification shall be edited to remove the design requirements. (Note that the design requirements are part of the contract as specified in Section 01018, FIRE PROTECTION REQUIREMENTS).

# 1.4.1 Hydraulic Design

Hydraulic Design requirements shall be deleted from the project specification. The following items shall be retained in the project specification:

#### 1.4.1.1 Minimum Pipe Size

The minimum pipe size for branch lines in gridded systems shall be 32 mm .

#### 1.4.1.2 Maximum Water Velocity

Water velocity in the piping shall not exceed 6 m/s.

# 1.4.1.3 Sprinkler Spacing

Maximum sprinkler spacing requirements shall be retained in the project specification.

# 1.4.2 General Requirements

All other general requirements shall be retained in the project specification.

# 1.4.3 Protection of Electrical Equipment

Add the following requirements to the project specifications; "Sprinkler piping, including pipe, valves, sprinkler heads, fittings, and appurtenances, shall not be routed above switchboards or panelboards unless the piping is installed at least 25 feet above the finished floor or above the next higher floor elevation."

# 1.4.4 Sprinklers Material Requirements

Add the following requirements to the material requirements for sprinklers in the project specifications; "Sprinklers shall conform to UL-04 for required application and shall be upright, pendent, sidewall or other type as indicated. Sprinklers installed in areas with finished ceilings shall be nickel or chrome plated and shall be provided with the manufacturer's matching nickel or chrome plated escutcheon."

# 1.4.5 Sprinklers Installation Requirements

Add the following requirements to the installation requirements for sprinklers in the project specifications; "Sprinklers shall be the type as required for the application. Automatic and open type sprinklers shall be

placed upright unless otherwise indicated, with the deflector parallel to the ceiling or slope of the roof. Clearances between deflectors and ceiling, roof decking, roof joists, and electric or heating equipment or other obstructions shall be in accordance with NFPA 13. Where sprinklers and escutcheons are installed in conjunction with finished ceilings, the sprinklers and matching escutcheons shall be installed in accordance with the manufacturer's recommendations. Coated sprinklers shall be coated with wax and installed as indicated."

# 1.5 Section 13965A, WET CHEMICAL FIRE EXTINGUISHING SYSTEM

The contractor edited specification section shall include the material physical characteristics and performance criteria for wet chemical fire extinguishing systems that protect kitchen equipment and exhaust system.

# 1.5.1 Equipment Requirements

All cooking equipment contained under the grease hood shall be protected by a wet chemical fire extinguishing system. Each item of equipment requiring protection shall be clearly called out. The location of wet chemical containers, system release panels, manual actuation stations, wiring and connection to the building fire alarm control panel, fuel shut-off valves, power shut-down equipment and wiring, and ductwork access doors will be shown on the project drawings.

# 1.5.2 Ductwork Requirements

The designer shall clearly indicate on the drawings the extent of protection required for the exhaust systems.

# 1.5.3 Building Fire Alarm System

The building fire alarm system shall be as specified in Section 01018, FIRE PROTECTION REQUIREMENTS.

#### 1.6 Section 13975N, STANDPIPE SYSTEMS

This guide specification is a preformance specification, which covers the requirements for dry or wet standpipe and hose systems for fire extinguishing. This section is primarily intended for performance designed systems in accordance with Military Handbook 1008C, i.e., systems where the size, layout, and support of standpipes shall be designed by the Contractor. The design shall be preformed and reviewed through the design process of the contract. The specification shall be edited to remove the design requirements. (Note that the design requirements are part of the contract as specified in Section 01018, FIRE PROTECTION REQUIREMENTS).

#### 1.6.1 Standpipe Location

The contractor edited specification section shall include the requirements for dry or wet standpipe and hose systems for fire extinguishing as shown near the janitor's closet.

# 1.6.2 Standpipe Type

Design and provide new manual dry Class I or wet Class I standpipe system.

Standpipe system requirements must conform to the current edition of

MIL-HDBK-1008, "Fire Protection for Facilities Engineering Design, and
Construction," and NFPA 14.

# 1.6.3 Concealed Piping

 $\frac{ \mbox{Piping shall be conceal in finished areas such as those with suspended } { \mbox{ceiling.} }$ 

-- End of Section --

#### SECTION 15000

# DIVISION 15: MECHANICAL - OUTLINE SPECIFICATIONS

#### PART 1 GENERAL

#### 1.1 GENERAL REQUIREMENTS

# 1.1.1 Contractor Edited Guide Specifications

Government provided UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFSG) shall be completely edited and fully coordinated with the drawings to accurately and clearly identify the product and installation requirements for the facility. The provided specifications define the minimum requirements for items of equipment, materials, installation, training, operating and maintenance instructions, O&M manuals and testing that shall be provided for the facility. The contractor shall edit and provide the following UFGS guide specifications for Division 15: Mechanical:

SECTION 15070A, SEISMIC PROTECTION FOR MECHANICAL EQUIPMENT

SECTION 15080A, THERMAL INSULATION FOR MECHANICAL SYSTEMS

SECTION 15182A, REFRIGERANT PIPING

SECTION 15190A, GAS PIPING SYSTEMS

SECTION 15400A, PLUMBING, GENERAL PURPOSE

SECTION 15569A, WATER AND STEAM HEATING; OIL, GAS OR BOTH; UP TO 20 MBTUH

SECTION 15620A, LIQUID CHILLERS

SECTION 15700A, UNITARY HEATING AND COOLING EQUIPMENT

SECTION 15895A, AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM

SECTION 15990A, TESTING, ADJUSTING, AND BALANCING OF HVAC SYSTEMS

SECTION 15995A, COMMISSIONING OF HVAC SYSTEMS

# 1.1.1.1 References

All references that have been deleted from the body of the guide specification shall be delete from the general paragraph which defines the reference.

#### 1.1.1.2 Standard Products

Material and equipment shall be a standard product of a manufacturer regularly engaged in the manufacture of the product and shall be essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening. The label or listing of the Underwriters

Laboratories, Inc., will be accepted as evidence that the materials or equipment conform to the applicable standards of that agency. In lieu of this label or listing, a statement from a nationally recognized, adequately equipped testing agency indicating that the items have been tested in accordance with required procedures and that the materials and equipment comply with all contract requirements will be accepted.

#### 1.1.1.3 Electrical Work

Electrical motor-driven equipment specified herein shall be provided complete with motors. Motors shall conform to the requirements of Section 16415 ELECTRICAL WORK, INTERIOR. Motor starters and disconnect switches shall be provided and installed for all motors under Section 16415A, ELECTRICAL WORK, INTERIOR. When available, starters and disconnect switches may be provided integral with the equipment from the factory. All equipment electrical data of voltage, phase and power requirements shall be fully coordinated with the plans and specifications.

#### 1.1.1.4 Submittals

All submittals listed in the guide specifications shall be submitted to the designer for approval. All items to be submitted, including product literature, calculations, component data, certificates, diagrams and drawings, shall be submitted concurrently in one complete system submittal. Omission of any required submittal item from the package shall be sufficient cause for disapproval of the entire submittal. Unless otherwise indicated in the submittal review commentary, disapproval of any item within the package shall require a re-submittal of the entire system package, in which all deficiencies shall be corrected. Furthermore, a copy(s) of the reviewed submittal shall be provided to the government for information and/or acceptance.

# 1.1.1.5 Regulatory Requirements

All regulatory requirements contained out in the guide specification shall be retained in the contractor edited project specification.

# 1.1.1.6 Guide Specification Requirements

All products, equipment, systems and materials specified in Section 01016, MECHANICAL REQUIREMENTS shall be as specified in the applicable UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFSG) listed above. The specifications shall be edited in accordance with the designer notes associated with each specification. Editing of the specific material and installation requirements shall be limited to these choices called out within the designer's notes except as indicated below.

#### 1.1.1.7 Non-Applicable Mechanical Equipment and Systems

Specific products and items of equipment identified in the provided specifications but not required for the facility shall be edited out. All products, equipment and systems specified UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFSG) listed above but not specified in Section 01016, MECHANICAL REQUIREMENTS shall be deleted from the contractor edited specification section.

# 1.1.1.8 Additional Requirements

All additional requirements for products, equipment, systems and materials

specified in Section 01016, MECHANICAL REQUIREMENTS that exceed or conflict with the applicable UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFSG) listed above shall be as specified in Section 01016, MECHANICAL REQUIREMENTS.

#### 1.1.1.9 Items Without Government Guide Specification

Where products, items of equipment, materials, installation, training, operating and maintenance instructions, O&M manuals or testing requirements are not specified in the guide specifications, special Sections within each applicable guide specification shall be prepared to specify those items. All of the additional requirements for the equipment, systems and materials specified in Section 01016, MECHANICAL REQUIREMENTS shall be incorporated into the special Sections within each applicable guide specification shall be prepared to specify those items.

# 1.1.2 Government Edited Specifications

The contractor shall incorporate the following government-supplied, fully edited specification sections as part of the project design:

SECTION 15971, DIRECT DIGITAL HVAC CONTROL SYSTEM

#### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 534

(1999) Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form

U.S. ARMY CORPS OF ENGINEERS (USACE)

TI 809-04

(1998) Seismic Design for Buildings

# 1.3 SECTION 15070A, SEISMIC PROTECTION FOR MECHANICAL EQUIPMENT

The contractor edited specification section shall include seismic protection measures for all mechanical equipment and systems as required by TI 809-04 Seismic Design for Buildings. Structural requirements shall be in accordance with Section 01015 STRUCTURAL REQUIREMENTS and Section 13080A SEISMIC PROTECTION FOR MISCELLANEOUS EQUIPMENT.

#### 1.3.1 Sway Brace Location Plan

A separate sway brace location plan shall not be submitted under this Section. Sway brace locations for ductwork and piping shall be shown on the respective shop or fabrication drawing submittals for ductwork and piping which are required in other DIVISION 15 Sections.

# 1.3.2 Seismic Sway braces Requirements

Seismic sway braces shall be provided at intervals as required in the guide specification. One brace shall be provided for each interval. Where a duct or pipe segment is shorter than the required bracing interval, at least one sway brace shall be provided for that segment. Attachments to equipment shall not be considered acceptable pipe sway braces.

# 1.4 SECTION 15080A, THERMAL INSULATION FOR MECHANICAL SYSTEMS

The contractor edited specification section shall include the following material physical characteristics and performance criteria for field-applied insulation and accessories on mechanical systems shall be as specified herein; factory-applied insulation is specified under the piping, duct or equipment to be insulated. Insulation of chilled water systems outside of buildings shall be as specified in Section 02555A PREFABRICATED UNDERGROUND HEATING/COOLING DISTRIBUTION SYSTEM.

#### 1.4.1 Identification of Materials

Add the following to the subject paragraph; Insulation materials shall be delivered in the manufacturer's unopened containers. Materials shall remain in the manufacturer's unopened containers until actual use and shall not be transferred to any other containers.

#### 1.4.2 Delete Acoustical Lining Insulation Adhesive

Acoustical lining and/or acoustical lining insulation adhesive shall not be provided as part of this project. Delete this paragraph from the project specifications.

#### 1.4.3 Pipe Insulation

All pressure piping shall be insulated as specified in the guide specification for the service intented. All exceptions to the requirement for insulation, which may be contained within the guide specification, shall be deleted except for piping passing through a fire rated surface when required for fire stopping purposes.

#### 1.4.4 Insulation Covers

Provide reusable insulation covers at all check valves, control valves, strainers, filters, or any other piping component requiring access for routine maintenance. Insulation exposed to the weather or possible physical damage shall be covered by an aluminum metal jacket. All piping with metal jacket shall be identified on the drawings.

# 1.4.5 Dual Temperature Piping

There shall be no dual temperature piping within this project. Delete all paragraphes related to dual temperature piping from the project specifications.

#### 1.4.6 Delete Flexible Elastomeric Cellular Insulation

The use of Flexible Elastomeric Cellular Insulation:ASTM C 534, Type I or II on cold water pipes and equipment shall not be promitted. The use of Flexible Elastomeric Cellular Insulation:ASTM C 534, Type I or II in thicknesses greater than 15 mm shall not be promitted.

#### 1.4.7 Delete Contact Adhesive

Contact adhesive is used only with flexible cellular insulation. Since flexible cellular insulation shall not be used, delete this paragraph.

## 1.4.8 Supply and Outside Air Ductwork Insulation

All supply and outside air ductwork shall be insulated as specified in the guide specification for the service intented. All exceptions to the requirement for insulation, which may be contained within the guide specification, shall be deleted except for ductwork passing through a fire rated surface when required for fire stopping purposes.

#### 1.4.9 Return and Exhaust Air Ductwork Insulation

All return and exhaust ductwork shall be insulated as specified in the guide specification for the service intented whenever the ductwork eneters a space that is not conditioned to the exact heating and cooling setpoint as the space the duct serves. All exceptions to the requirement for insulation, which may be contained within the guide specification, shall be deleted except for ductwork passing through a fire rated surface when required for fire stopping purposes.

#### 1.4.10 Insulated Ductwork Within the Kitchen

All ductwork contained within the kitchen and adjoining service ares, which requires insulation as specified above, shall be provided with a stainless steel jacket to facilitae the cleaning requirements of the food preporation areas.

# 1.4.11 Rectangular Duct Exposed to Weather

The top surface of rectangular duct exposed to weather must have a minimum pitch of not less than 1 inch per linear foot. The flat surface shall not be subject to ponding water.

# 1.5 SECTION 15182A, REFRIGERANT PIPING

This guide specification covers the requirements for refrigerant piping. The contractor shall edited this specification section if split type direct expansion systems are supplied for the communication rooms or kitchen refrigeration equipment. All field installed refrigerant piping shall conform to the material physical characteristics, performance criteria and instalation requirements found in the guide specification.

# 1.6 SECTION 15190A, GAS PIPING SYSTEMS

This guide specification covers the requirements for low pressure gas systems conforming to NFPA NFPA 5/ANSI Z223.14 for nonindustrial uses.

#### 1.6.1 Material Criteria

Interior piping shall be black steel. The contractor edited specification section shall include the material physical characteristics and performance criteria for Steel Pipe, Joints, and Fittings. Aluminum Alloy Pipe and Tubing, Joints, and Fittings; Copper Tubing, Joints and Fittings; Steel Tubing, Joints and Fittings; Thermoplastic Pipe, Tubing, Joints, and Fittings; and Fiberglass Pipe, Joints, and Fittings shall be deleted from the project specifications.

# 1.6.2 Piping in Partitions

Concealed piping shall be located in hollow partitions only. Piping shall not be located in solid or cellular masonry walls or solid partitions. Tubing passing through walls or partitions shall be protected against

physical damage.

#### 1.6.3 Anodeless Riser

Connections between aboveground metallic and underground plastic piping shall be made only outside, underground, and with approved anodeless riser type transition fitting.

# 1.6.4 Delete Underground Metallic Pipe

Buried metallic piping shall not be provided. Underground distribution piping shall be shall be polyethylene as specified in  $^{\text{Section 02556A}}$  GAS DISTRIBUTION SYSTEM. Delete all references to buried metallic piping from the project gas specifications.

#### 1.6.5 Piping Buried Under Buildings

Underground piping shall not be installed beneath buildings. Delete this paragraph in the guide specification from the project specification.

# 1.7 SECTION 15400A, PLUMBING, GENERAL PURPOSE

This guide specification covers general purpose type plumbing systems. This specification essentially implements the requirements of the International Plumbing Code (IPC). Equipment supports and connections, for either equipment on the ground or in the building, will conform to these requirements.

#### 1.7.1 Domestic Water Service Meter

Domestic water meter shall be as specified in Section 02510A, WATER DISTRIBUTION SYSTEM or Section 15400A, PLUMBING, GENERAL PURPOSE. Coordinate with the project Civil Engineer.

# 1.7.1.1 Maximum Water Pressure Drop

The following sentence, which limits the maximum water pressure drop through the meter, shall be added to the project specifications; Maximum pressure drop through the meter shall be [\_\_\_] kPa at a flowrate of [\_\_\_] L/s. The values of flowrate and pressure drop within the brackets shall be coordinated with the design of the plumbing system.

#### 1.7.1.2 Meter Boxes

When exterior water meters are provided or specified, the specification for meter boxes shall be added to the project specifications; Meter boxes shall be of cast iron or concrete of sufficient size to completely enclose the meter and shut-off valve or service stop. Box height shall extend from invert of the meter to final grade at the meter location. Cover shall be cast iron with the word "WATER" cast in it.

#### 1.7.2 Piping Material Criteria

The Tables at the end of the specification shall be edited to indicate which materials shall be used for installation of each system. The contractor edited specification section shall include the following material physical characteristics and performance criteria for piping systems:

# 1.7.2.1 Domestic Pressure Piping

Materials for domestic hot and cold water distribution systems shall be copper aboveground and copper type k underground. Underground domestic piping shall be limited to building service entrance and exits to exterior drinking fountains. All piping 50 mm and smaller shall be soldered using 95/5 tin antimony solder, piping 65 mm and larger shall be brazed. Multi-flame torch is not required for soldering or brazing. TABLE II shall be edited to indicate which materials shall be used for installation of each system.

# 1.7.2.2 Wall Hydrants

Coordinate the terminology "wall hydrants" and "freeze-proof wall hydrants" between the drawings and the specifications. All exterior wall hydrants shall be of the freeze-proof type. Show the elevation of wall hydrants on the plans or add the following sentence to this paragraph; Wall hydrants shall be installed 600 mm above finished grade.

#### 1.7.2.3 Wall Faucets

Coordinate the terminology "wall faucets" and "hose bibbs" between the drawings and the specifications. Show the elevation of wall faucets on the plans or add the following sentence to this paragraph; wall faucets shall be installed 600 mm above finished grade.

# 1.7.2.4 Soil, Waste, Drain, and Vent Piping

Materials for above/below ground soil, waste, and vent shall be as specified in Table I in CEGS Section 15400A PLUMBING, GENERAL. All building underslab piping elevations should be shown on the drawings. Verify that the pipe elevations do not conflict with building structural footings and foundations walls.

# 1.7.2.5 Pipe Cleanouts

Sanitary plans shall show sufficient cleanouts for system maintenance. Cleanouts shall be provided at all turns and at least every 15 m along straight runs.

# 1.7.2.6 Identification of Piping

All exposed and concealed piping in accessible spaces shall be identified in accordance with the requirements of UFGS Section 09900A, PAINTING, GENERAL.

#### 1.7.3 Fixtures

Plumbing fixtures, faucets and trim shall be as specificed in the guide specification except as specifically modified in Section 01014, INTERIOR DESIGN.

# 1.7.4 Escutcheons

Escutcheons are not generally available in satin-finish, corrosion-resisting steel, polished chromium-plated zinc alloy, or polished chromium-plated copper alloy as specified in Section 15400A, PLUMBING, GENERAL PURPOSE. Escutcheons shall be chromium plated steel escutcheons only.

#### 1.7.5 Structural Interferance

All building underslab piping elevations shall be shown on the drawings. The contractor shall verify that the pipe elevations do not conflict with building structural footings and foundations walls before any building structural footings and foundations walls are formed.

# 1.7.6 EPDM Roof Requirements

Pipes, which pass through EPDM roof material shall be flashed watertight in accordance with the recommendations and details of the EPDM roof manufacturer.

1.8 SECTION 15569A, WATER AND STEAM HEATING; OIL, GAS OR BOTH; UP TO 20 MBTUH

This guide specification covers the requirements for packaged hot water and steam boiler systems (gas fired) of up to 6000 kW output capacity as required in Section 01016, MECHANICAL REQUIREMENTS. The hot water boiler and piping systems operate at water temperatures below 120 degrees C and water working pressures less than 1100 kPa. This guide specification also covers the requirements for packaged hot water and steam boiler systems (oil or combination oil/gas fired) of up to 6000 kW output capacity. All references to steam and to fuel types other than natural gas shall be deleted from the project specifications.

# 1.8.1 High and Medium Temperature Water Systems

All heating systems contain in this project have been limited to low temperature water heating or low pressure steam systems. Delete are specifications for high and medium temperature water systems.

#### 1.8.2 Boilers

Delete water tube boilers. Delete cast iron boilers.

# 1.8.2.1 Condensing Boiler

Condensing boilers shall be in the form of fire tube boilers with pulse combustion. Delete copper fire tube type boilers and multiple heat exchanger type boilers from the project specifications.

# 1.8.2.2 Hydronic Boiler Modular Configuration

Hydronic boilers shall be of the modular, condensing type.

#### 1.8.2.3 Hot Water Boilers

Hot water boilers shall be specified for space heating. All blanks shall be completed by the designer to comply with Section 01016, MECHANICAL REQUIREMENTS.

#### 1.8.2.4 Steam Boilers

Steam boilers shall be specified for when a steam to steam heat exchanger is to be provided for the energy source of the dry steam humidifiers. All blanks shall be completed by the designer to comply with Section 01016, MECHANICAL REQUIREMENTS. A water softener shall be provided for all make

up water to the steam boiler and humidifiers when steam boilers are provided.

# 1.8.3 Fuel Burning Equipment

Include all the required data for proper design of the boiler. Delete all references to fuel oils and combination gas and oil fired units which shall not be used.

#### 1.8.3.1 Gas Pulse Combustion Burners and Controls

Burners shall be an integral part of the boiler module heat exhcanger and require no pilot. Burner shall operate on the pulse combustion principle, shall be self-aspirating and require no forced-draft or induced-draft fan to supply air for combustion after ignition. Burner control shall be on/off operative type. Burner shall be provided complete with fuel supply system. Gas fired units shall conform to UL 795. Pulse combustion chamber and fire tubes shall be contructed of stainless steel.

# 1.8.3.2 Combustion Control Equipment for Package Equipment

Each boiler shall be equipped with a factory wired control panel. Control systems and safety devices for automatically fired boilers shall conform to ASME CSD-1 and shall be UL listed. Electrical combustion and safety controls shall be rated at 120 volts, single phase, 60 Hz and shall be connected as specified in Section 16415 ELECTRICAL WORK, INTERIOR. Indicating lights shall be provided on the control panel. A red light shall indicated flame failure, and a green light shall indicate that the main fuel valve is open. Panel for each boiler shall be integral to the unit. The following shutdown conditions shall require manual reset before the boiler can automatically recycle:

- a. Flame failure.
- b. Blocked combustion air intake.
- c. Insufficient prepurge air.
- d. Low-water cutoff.
- e. High temperature cutoff.

# 1.8.3.3 Boiler Control DDC Panel for Multiple Boiler Sequencing

The boiler control DDC panel shall be as specified in Section 15971, DIRECT DIGITAL HVAC CONTROL SYSTEMS.

# 1.8.4 Steam to Steam Heat Exchanger

When a steam-to-steam heat exchanger is selected as the energy source for the dry steam humidifiers, than a specification for the steam-to-steam shall be added in this section. The specification for the steam-to-steam heat exchanger shall be applicable for the steam pressures and temperatures on both sides of the heat exchanger and of a simular quality as specified for other heat exchangers in Section 15556A FORCED HOT WATER HEATING SYSTEMS USING WATER AND STEAM HEAT EXCHANGERS. The unit shall be installed as a complete and functioning system with all accessories as recommended by the steam-to-steam heat exchanger's manufacture.

#### 1.8.5 Continuous Emissions Monitoring

Delete this paragraph for pulse boilers.

#### 1.8.6 Conventional Breeching and Stacks

Delete this paragraph for condensing boilers.

# 1.8.7 Foundation (Setting) Materials

Delete this paragraph for condensing boilers.

# 1.8.8 FUEL OIL STORAGE SYSTEM

Delete this paragraph for condensing boilers.

#### 1.8.9 Pipe Expansion

Expansion loops and offsets shall provide adequate expansion of the main straight runs of the system within the stress limits specified in ASME B31.1. The loops and offsets shall be cold-sprung and installed where required. Pipe guides and anchors shall be provided as required. The designer shall show the location loops, offsets, pipe guides and anchors on the project drawings. When pipe expansion cannot be handled through offsets and loops, than justification shall be provided. When pipe expansion can be handled through offsets and loops, than expansion joints shall be deleted from the project specification.

# 1.8.10 Hot (and Chilled) Water Piping

This specification shall also apply to chilled water piping.

# 1.8.10.1 Pipe Materials

All new heating water piping within the facility shall be black steel conforming to ASTM A53, Schedule 40 or copper.

# 1.8.10.2 Pipe Joints

HVAC water piping installed within the facility shall utilize threaded joints or welded joints. Welded joints and fittings shall be used for joints 65 mm and larger. Copper pipe joints 65 mm and larger shall be brazed.

# 1.8.10.3 Grooved Mechanical Joints

Grooved mechanical pipe joints and fittings shall only be installed in accessable locations.

# 1.8.10.4 Connections to Equipment

Connections to equipment shall utilize unions for pipe  $50\ \mathrm{mm}$  and smaller and flanges for pipe  $65\ \mathrm{mm}$  and larger.

# 1.8.11 Pumps

Delete all pump except as listed below:

# 1.8.11.1 HVAC Water Circulating Pumps

The HVAC water shall be circulated by base mounted, end-suction, centrifugal pumps with mechanical seals. Required flow rate and head loss shall be corrected for glycol. The pumps shall be non-overloading allowing

the pump to operate at any point on its characteristic curve. Each pump shall be provided with a calibrated bronze balancing valve.

# 1.8.11.2 Condensate Pumping Unit

Steam boilers shall be specified for when a steam to steam heat exchanger is to be provided for the energy source of the dry steam humidifiers. This paragraph shall be modified as required by the designer to specificy the boiler feed units asspecified in Section 01016, MECHANICAL REQUIREMENTS.

# 1.8.12 Steam Traps

All steam traps shall be of the float-and-thermostatic type. Delete all other types of steam traps from the guide specification.

# 1.8.13 FUEL OIL SYSTEM

Delete this paragraph for condensing boilers.

# 1.9 SECTION 15620A, LIQUID CHILLERS

This guide specification covers the requirements for liquid chilling equipment, including air cooled, rotary screw type liquid chiller as required in Section 01016, MECHANICAL REQUIREMENTS.

#### 1.9.1 MANUFACTURER'S MULTI-YEAR COMPRESSOR WARRANTY

Include a 5 year warranty as follows; The Contractor shall provide a 5 year parts and labor (includes refrigerant) manufacturer's warranty on the air-cooled chiller compressor(s). This warranty shall be directly from the chiller manufacturer to the Government and shall be in addition to the standard one-year warranty of construction. The manufacturer's warranty shall provide for the repair or replacement of the chiller compressor(s) that become inoperative as a result of defects in material or workmanship within 5 years after the date of final acceptance. When the manufacturer determines that a compressor requires replacement, the manufacturer shall furnish new compressor(s) at no additional cost to the Government. Upon notification that a chiller compressor has failed under the terms of the warranty, the manufacturer shall respond in no more than 24 hours. Response shall mean having a manufacturer-qualified technician onsite to evaluate the extent of the needed repairs. The warranty period shall begin on the same date as final acceptance and shall continue for the full product warranty period.

# 1.9.2 Chiller Energy Performance Requirements

All chillers supplied shall have a minimum EER or Energy Efficiency Ratio (Btuh/Watt) of 9.5.

# 1.9.3 Rotary Screw Type Chillers

Chillers shall be of the self contained - package - air cooled - rotary screw type. Delete other chiller options from the specification.

#### 1.9.3.1 SPLIT-SYSTEM LIQUID CHILLER

Delete this chiller type from the specification.

#### 1.9.3.2 Controls

The chiller should be equipped with a factory-piped and wired microprocessor based (DDC) control panel which shall provide all control functions including start-up, shut-down, leaving chilled water temperature control, capacity reduction, fan sequencing, antirecycle logic, automatic lead-lag compressor starting and load limiting.

1.9.3.3 Energy Management Control System (EMCS) Interface

The EMCS interface shall be as specified in Section 15971, DIRECT DIGITAL HVAC CONTROL SYSTEMS.

1.9.3.4 Compressor(s)

Compressors shall be of the rotary screw type. Delete other compressor options from the specification.

1.9.3.5 Compressor Driver, Gas-Engine

Delete this paragraph type from the specification.

1.9.3.6 Compressor Driver, Steam Turbine

Delete this paragraph type from the specification.

1.9.3.7 Air-Cooled Condenser Coil

Condenser shall be of the air cooled type. Delete other condenser options from the specification.

1.9.4 Refrigerant Recovery/Recycle System

Delete this paragraph type from the specification.

1.9.5 Automatic Tube Brush Cleaning System

Delete this paragraph type from the specification.

1.9.6 Chilled Water Piping and Accessories

Chilled water piping and accessories shall be provided and installed in accordance with Section 15569A, WATER AND STEAM HEATING; OIL, GAS OR BOTH; UP TO 20 MBTUH.

1.9.7 Refrigerant Piping

Delete this paragraph type from the specification.

1.9.8 Cooling Tower

Delete this paragraph type from the specification.

1.9.9 Temperature Controls

Modify this paragraph as required to coordinate the central equipment controls with the air-side system controls. Chiller control packages shall be fully coordinated with and integrated into the temperature control system specified in Section 15971, DIRECT DIGITAL HVAC CONTROL SYSTEMS.

#### 1.9.10 Mechanical Room Ventilation

Delete this paragraph type from the specification.

# 1.10 SECTION 15700A, UNITARY HEATING AND COOLING EQUIPMENT

This guide specification includes tailoring options for room unit, package systems, split system, and air-conditioners, heat pumps, and accessories. The use of this type of equipment shall be limited to the communication rooms as required in Section 01016, MECHANICAL REQUIREMENTS.

#### 1.10.1 Blower Speed

When the blower has multible speeds, than the units shall be selected to provide the scheduled coil capacity supply air volume while operating on medium blower speed.

#### 1.10.2 Sound Power Levels

Unit sound power levels, dB referenced to the 10 to the minus twelfth power watt, at the fan operating speed selected to meet specified capacity shall not exceed the following values in each octave band at mid-frequency:

#### Unit Capacity Octave Band/Mid-frequency 6/2000 7/4000 in CFM 3/250 4/500 5/100

MAXIMUM SOUND POWER LEVELS dB

# 1.10.3 Heating Source

Electric heat shall not be provided.

# 1.11 SECTION 15895A, AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM

This guide specification covers the requirements for air supply, distribution, ventilation, air systems equipment, air handling units and exhaust portion of an HVAC system as required in Section 01016, MECHANICAL REQUIREMENTS.

# 1.11.1 Standard Products

Add the following requirements to this paragraphin the project specification: "All products used in the air supply and distribution system shall be appropriate for the intended purpose and suitable for the pressures and temperatures encountered."

# 1.11.2 PIPING COMPONENTS

The material and installation specifications for piping components shall be

deleted from this specification. Add the following sentence in place of both the material and installation specifications for piping components; Piping and piping components for both the hot and chilled water systems shall be as specified for hot water systems in Section 15569A, WATER AND STEAM HEATING; OIL, GAS OR BOTH; UP TO 20 MBTUH.

#### 1.11.3 CONTROLS

Controls shall be provided as specified in  $\frac{Section\ 15971}{DIRECT\ DIGITAL\ HVAC}$  CONTROL SYSTEMS.

#### 1.11.4 DUCTWORK COMPONENTS

The following modifications shall be made to the project specification;

#### 1.11.4.1 Metal Ductwork

Seal Class A shall be specified for all ductwork regardless of the static pressure class. Delete the following references to seal class C and to static pressure class from the project spcification; "Static pressure Class 125, 250, and 500 Pa (1/2, 1, and 2 inch w.g.) ductwork shall meet the requirements of Seal Class C. Class 750 through 2500 Pa (3 through 10 inch) shall meet the requirements of Seal Class A."

#### 1.11.4.2 FRP Ductwork

Round filament wound fiberglass reinforced plastic ductwork may be provided in place of metal ductwork, except for kitchen exhaust systems. Add the following paragraph to the ductwork components of the project specifications; "Round filament wound fiberglass reinforced plastic ductwork and related structures shall conform to SMACNA Industry Practice. Flanged joints shall be provided where indicated. The duct and fittings, as a finished composite, shall meet the Flame and Smoke requirements of a Class 1 duct per UL 181. Crevice-free butt lay-up joints are acceptable where flanged joints are not indicated." Change the term "fibrous glass" to "fiberglass" at all references to FRP ductwork in the project specification.

# 1.11.4.3 Fibrous Glass Ductwork

Rectangular fibrous glass ductwork in accordance with NAIMA AH115 shall not be provided. Delete this paragraph.

# 1.11.4.4 Splitters and Manual Balancing Dampers

Splitters dampers shall not be provided. Manual balancing dampers shall be provided at each branch duct and runout. Modify this paragraph in the project specification to delete all references to splitter type dampers.

# 1.11.4.5 Outdoor Air Intake Ducts and Plenums

Add the following paragraph to the project specifications; "Outside air intake ducts and plenums shall be fabricated with watertight soldered or brazed joints and seams and insulated as specified in Section 15080A, THERMAL INSULATION FOR MECHANICAL SYSTEMS. The plenum shall be provided with a drain at the low point. The drain shall be ran to the nearest floor drain located in a non-finished area."

#### 1.11.4.6 Acoustical Duct Liner

Delete this paragraph type from the specification. Duct liner shall not be provided. Delete all references to duct liner from the project specification.

# 1.11.4.7 Diffusers, Registers, and Grilles

Add the following sentence to the project specifications; "Fastener used to secure units should be of the same material as the diffuser, register or grilled to prevent galvanic corrosion."

#### 1.11.4.8 Air Vents, Penthouses, and Goosenecks

Goosenecks necks shall not be provided. Except for exhaust fans serving cooking equipment, air penetrations through the roof shall be provided with a penthouses. Air vents and goosenecks shall be edited from the project specifications.

#### 1.11.5 AIR SYSTEMS EQUIPMENT

The following modifications shall be made to the project specification;

# 1.11.5.1 In-Line Centrifugal Fans

Delete the following sentence from the project specifications; "Fans shall be mounted in a welded tubular casing." If fan is to be mounted above the ceiling, the fan as specified in the project specifications shall fit in the space above the ceiling. The paragraph as written requires a welded tubular fan housing, which typically requires 24" minimum to install. A square in-line fan with a much lower profile shall be provided when space is tight, but the following paragraph must be edited to specify this type of in-line fan.

# 1.11.5.2 Power Roof Ventilators

Except for plumbing vents, boiler vents, exhaust fans serving cooking equipment, and louvered intake penthouses, with motorized dampers at the exterior, no other mechanical equipment shall be located on the roof of the facility. The project specifications shall be modified to specify power roof ventilators to kitchen fans only. Those portions that do not apply shall be deleted from the project specifications.

#### 1.11.5.3 Fan Sheave

The following sentence shall be added to the project specification for all fans, either individual or within air handling equipment; "A replacement sheave shall be provided during system test, adjust and balance if required to achieve system air balance."

# 1.11.5.4 Heating and Cooling Coils

All heating and cooling coils shall be water type coils. All other coil types shall be deleted from the project specifications.

# 1.11.5.5 Water Coils

Add the following sentence to the project specifications; "Coil fins shall be spaced at a maximum of 395 fins per meter."

#### 1.11.5.6 Air Filters

At a minimum all filters, except those in kitchen hoods, shall be 50 mm (2 inch) depth, sectional, disposable type of the size indicated and shall have an average efficiency of 25 to 30 percent when tested according to ASHRAE 52.1. Filter types not provided shall be deleted from the project specifications.

#### 1.11.6 AIR HANDLING UNITS

All Air Handling Units shall be fabricated in a factory. Units shall be single-zone draw-through type or multizone blow-through triple deck type as specified in Section 01016, MECHANICAL REQUIREMENTS. Units shall include fans, coils, airtight insulated casing, prefilters for pre cooling coils in the outside air path, filter sections in the mixed air path, adjustable V-belt drives, belt guards for externally mounted motors, access sections where indicated, combination sectional filter-mixing box, drysteam humidifier, vibration-isolators, and appurtenances required for specified operation. Humidifiers shall be provided as either a part of the packaged self-contained humidifiers or as a complete steam system with boiler and heat exchanger specified above. Air handling unit shall have published ratings based on tests performed according to ARI 430.

# 1.11.6.1 Casings

The first two sentences of this paragraph shall be edited as follows; "Casing sections shall be of the double wall type, constructed of a minimum 18 gauge galvanized steel, or 18 gauge steel outer casing protected with a corrosion resistant paint finish according to paragraph FACTORY PAINTING. Inner casing of double-wall units shall be minimum 1.0 mm (20 gauge) solid galvanized steel." The option for "A minimum 200 mm by 200 mm sealed glass window suitable for the intended application shall be installed in all access doors." shall be included in the project specifications when ever the air handling unit is large enough to walk into and close the access doors. Interior door handles shall also be provided in these large units.

# 1.11.6.2 Cooling Coils, Spray Type

Spray type coils shall be deleted from the project specifications.

# 1.11.6.3 Drysteam Humidifier

Add specification for drysteam humidifier dispersion tubes when a complete steam system is to be supplied. Humidifier shall be supplied with a steel steam dispersion-tube which provides uniform steam distribution over the entire tube length and shall be supplied at various lengths to adequately span the widest dimension of the duct. Steam supply line to the dispersion tube shall adequately convey steam to the tube and drain any condensate to ensure dry steam in the dispersion tube. Humidifier controls shall incorporate a controlling stat, duct high-limit stat, interlock switch to fan motor and/or to sail switch in duct.

# 1.11.6.4 Self-Contained Electrode Type Packaged Humidifiers.

Add specification for self-contained electrode steam humidifier when a self-contained electrode type packaged humidifier is to be supplied.

Humidifier assembly shall include a 20-gauge steel cabinet that houses replaceable canister with auto-flush, solenoid fill valve, pressure

regulating orifice, and auto control circuit. The humidifier shall be serviceable without disconnecting the high-voltage power supply and shall not interrupt unit operation. Electrode wires shall be connected with quick connect fasteners.

- a. Microprocessor control shall maintain humidifier operation through fill and drain cycles based on water conductivity. Overflow and loss of flow protection shall be provided along with a manual drain switch. A capacity adjustment potentiometer shall be provided. A high-water alarm with built-in time delay shall provide an audible and visual indication to change canister. Humidifier shall have full modulating control to provide 0 to 100 percent capacity. It must also provide a gradual increase in amperage in order to avoid undesirable surges of current. Humidifier shall be supplied with a solid state electronic sensor controller (humidistat compatible with DDC system to supply 30% 60% R.H. minimum outside air required) capable of fully modulating the steam flow.
- b. The humidifier fill waterline shall have an air gap to prevent backflow (or siphoning) of contaminated water into the water supply system. Water fill lines shall also have a water seal between a fill cup and the steam generator to prevent backflow of steam vapor when the drain valve is activated.
- c. Humidifier shall incorporate electrical terminals for installation of controlling stat, duct high-limit stat, interlock switch to fan motor and/or to sail switch in duct. Humidifier shall be supplied with a steel steam dispersion-tube which provides uniform steam distribution over the entire tube length and shall be supplied at various lengths to adequately span the widest dimension of the duct. Steam hose from generator to dispersion tube shall be of reinforced rubber to adequately convey steam to the tube and to drain any condensate back to the generator.

# 1.11.6.5 Self-Contained Gas-Fired Type Packaged Humidifiers.

Add specification for self-contained gas-fired steam humidifier when a self-contained gas-fired type packaged humidifier is to be supplied.

Humidifier assembly shall include a 20-gauge steel cabinet that houses a self contained infrared gas burner, a stainless steel evaporating champer with auto-flush, surface skimmer, removable clean out tray, solenoid fill valve, pressure regulating orifice, and auto control circuit. The humidifier shall be serviceable without disconnecting the power supply and shall not interrupt unit operation.

- a. The burner shall be of the self-contained infrared type with rapid heat transfer and 80% plus efficiency. A hot surface ignition device shall be provided. Standing pilots are not acceptable. The burner shall have a minimum 10 to 1 turn down ratio. The unit shall be AGA tested and rated. The flue shall be provided in accordance with the package humidifier's manufacture's recommendations. The heat exchanger shall be designed to be self-cleaning of mineral scale through the continuous expansion and contraction of the heat exchanger. Both a surface skimmer and removable clean out tray shall be provided for removal of loose mineral and/or scale.
- b. Microprocessor control shall maintain humidifier operation through fill cycles based on water conductivity. Microprocessor control shall maintain humidifier operation through drain and flush cycles based on

accumulated actual humidifying "on" time. Overflow and loss of flow protection shall be provided along with a manual drain switch.

Microprocessor control shall include self-diagnostic, accumulated operational hours and visual indication for evaporating champer service. Humidifier shall be supplied with a solid state electronic sensor controller (humidistat compatible with DDC system to supply 30% - 60% R.H. minimum outside air required) capable of fully modulating the steam flow.

- c. The humidifier fill waterline shall have an air gap to prevent backflow (or siphoning) of contaminated water into the water supply system. Water fill lines shall also have a water seal between a fill cup and the steam generator to prevent backflow of steam vapor when the drain valve is activated.
- d. Humidifier shall incorporate electrical terminals for installation of controlling stat, duct high-limit stat, interlock switch to fan motor and/or to sail switch in duct. Humidifier shall be supplied with a steel steam dispersion-tube which provides uniform steam distribution over the entire tube length and shall be supplied at various lengths to adequately span the widest dimension of the duct. Steam hose from generator to dispersion tube shall be of reinforced rubber to adequately convey steam to the tube and to drain any condensate back to the generator.

#### 1.11.7 TERMINAL UNITS

Delete this paragraph from the project specification.

#### 1.11.8 INSTALLATION

Add the following sentence to this paragraph; "The entire air supply and distribution system, including ductwork, dampers, air supply equipment, plenums and all other associated components shall be installed to meet the requirements of NFPA 90A."

# 1.11.9 Underground Ductwork

No ductwork shall be installed underground. Delete this paragraph from the project specification.

# 1.11.10 Exposed Ductwork

Add the following sentence to this paragraph: "Ductwork shall not be installed exposed without the approval of the contracting officer's representative except for kitchen exhaust ductwork."

#### 1.11.11 Concealed Ducts Conveying Moisture Laden Air

# 1.11.11.1 FRP Ductwork

FRP Ductwork may be added to this paragraph providing the air steam is within the temperature limits of the material as stated in the manufacture's published literature.

# 1.11.11.2 Dryer Vent Exhaust

Dryer vent exhaust shall have smooth interior surfaces. Connectors, such as sheet metal screws, that project into the duct shall not be used.

# 1.12 SECTION 15990A, TESTING, ADJUSTING, AND BALANCING OF HVAC SYSTEMS

This guide specification covers the requirements for the testing, adjusting, and balancing (TAB) of all heating, ventilating and air conditioning systems. The Designer shall actively participate in the process, including review of all submittals contained herein and participation in TAB verification.

# 1.13 SECTION 15995A, COMMISSIONING OF HVAC SYSTEMS

This guide specification covers the requirements for commissioning of HVAC systems. Each mechanical system and piece of equipment shall be commissioned. A properly functioning HVAC system assures a comfortable, healthy and productive environment for the user. The contractor's mechanical designer shall be a member of the HVAC commissioning team, and shall actively participate in the process, including review of all submittals contained herein. The checklists provided in the guide specification are to be used as guides for the preparation of project checklists. The appropriate checklist shall be included in the project specification for each HVAC equipment component. The designer will add additional checklists for equipment or systems not included in this guide specification or modify the checklists where necessary for specific project requirements. If, for example, a system needs to be tested with certain internal load, each appropriate checklist should be modified to include this requirement along with specifics on how load should be generated.

PART 2 NOT USED

PART 3 NOT USED

-- End of Section --